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ABSTRACT

Representing the University of Nevada System's (UNS) plans for public higher education in Nevada for the four-year period from 1989 to 1993, this report discusses what the Board of Regents considers to be the major higher education issues in the state. Chapter I discusses the record 56% increase in enrollment in UNS schools from 1976 to 1986; the inadequacy of current funding formulas to meet the need for new academic programs, faculty resources, and new facilities; and issues of access and educational quality. Chapter II contains enrollment projections, focusing on trends related to high school graduates, nontraditional students, minority students, and UNS enrollment forecasts through 2001. This chapter also considers means of financing the expected 7% annual systemwide growth, describing the UNS biennial budget request, the current funding formula, and capital construction needs. After chapter III discusses the academic plans and priorities of each UNS community college and university campus, chapter IV discusses the challenge of maintaining student access to higher education in diverse forms. Chapter V examines goals related to the pursuit of educational quality, considering issues of faculty salaries, university entrance requirements, performance evaluation, educational outcomes, and research. In chapter VI, higher education's role in meeting the needs of the state is discussed in terms of needs for economic development, health care education, educational research, computing and new technology, and educational telecommunications. A chart showing degrees offered by college is appended. (AAC)

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THE UNIVERSITY OF NEVADA SYSTEM PLANNING REPORT 1989 - 1993

Future Directions for Nevada's Colleges and Universities

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University of Nevada System * Office of the Chancellor

January 1989

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THE UNS PLANNING REPORT

The University of Nevada System consists of seven institutions; the University of Nevada, Las Vegas, the University of Nevada-Reno, Clark County Community College, Northern Nevada Community College, Truckee Meadows Community College, Western Nevada Community College, and the Desert Research Institute. The system enrolls over 56,000 students in various disciplines from occupational and training areas within the community colleges to doctoral programs at the universities. The system is governed by a nine member Board of Regents, and coordinated through the Office of the Chancellor. Each campus is headed by an institutional president. The campuses regularly engage in planning activities and in the review of academic programs. On a biennial basis, this systemwide planning report is published which provides a statewide overview of public higher education in Nevada.

This publication entitled, "The University of Nevada System Planning Report: 1989-1993," focuses on the significant growth of the system, and its impact upon the pursuit of high quality programs, student access to University of Nevada System campuses, capital construction needs, and budget priorities. The role of higher education in economic development, scientific research, computing technology, health care education and other issues is also addressed. These are critical issues facing higher education, and this planning effort reflects a continuing commitment to provide quality higher education for the State of Nevada.

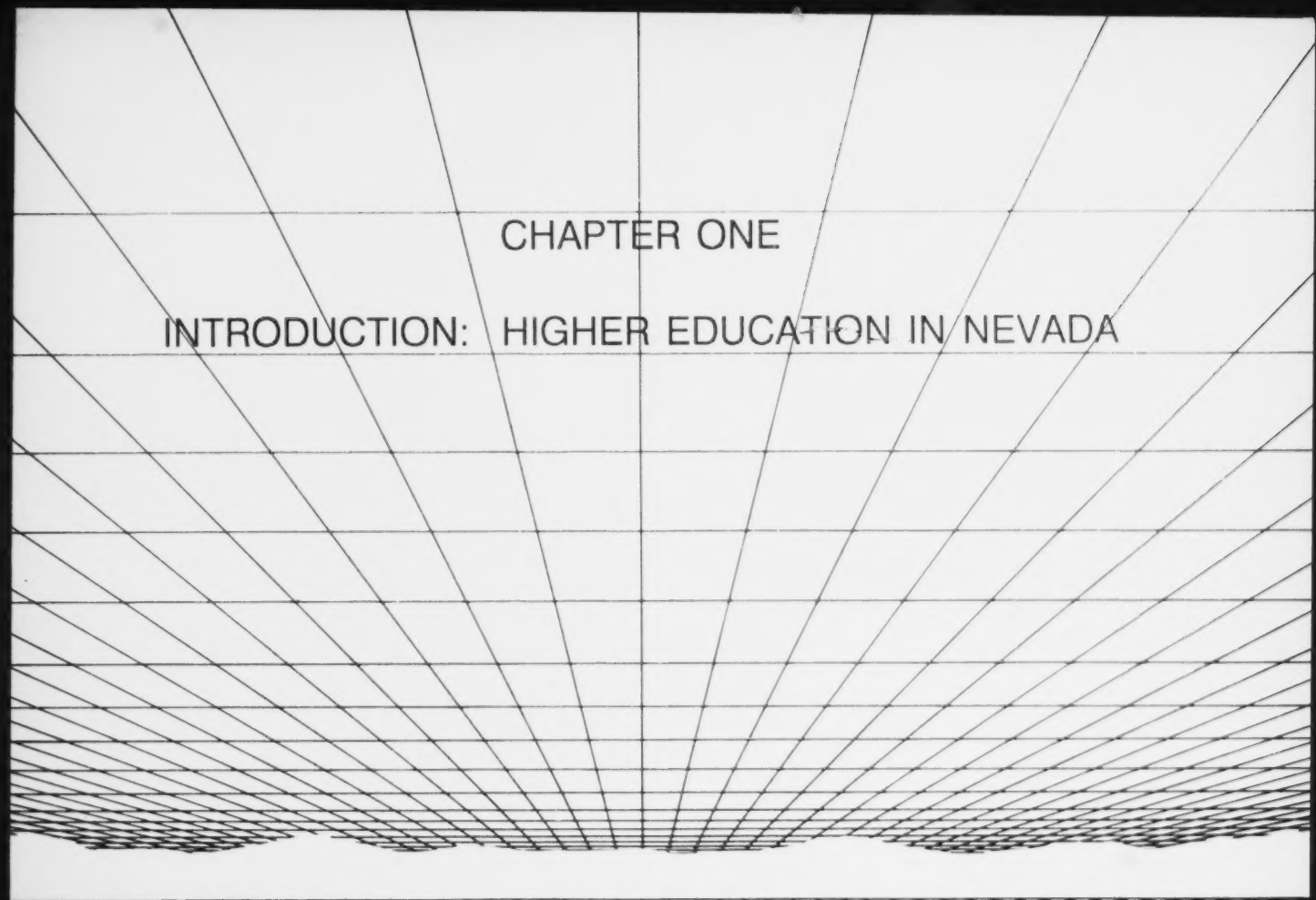
TABLE OF CONTENTS

Chapter		Page
I.	INTRODUCTION: HIGHER EDUCATION IN NEVADA	1
II.	PLANNING FOR GROWTH	11
	Population and Enrollment Projections	11
	High School Graduates	12
	Nontraditional Students	15
	Minority Students	16
	UNS Enrollment Projections	17
	Financing System Growth	26
	University of Nevada System Biennial Budget Request	26
	University of Nevada System Formula Funding	29
	Capital Construction Needs	31
III.	CAMPUS ACADEMIC PLANS AND PRIORITIES	39
	Community Colleges	39
	Universities	43
	Desert Research Institute	46
IV.	STUDENT ACCESS TO EDUCATION	50
	Growth	51
	Students	53
	Removing Barriers	55
V.	PURSUING QUALITY EDUCATION	59
	Faculty Salary Goals	60
	University Entrance Standards	60
	Performance Evaluation and Educational Outcomes	61
	Research in Higher Education	65
	The Impact of Pursuing Quality Education on the University of Nevada System	66
VI.	STATE ISSUES IN HIGHER EDUCATION	68
	Economic Development	68
	Health Care Education	73
	Experimental Program to Stimulate Competitive Research	75
	Computing and New Technology	77
	Educational Telecommunications	79

APPENDIX
INDEX OF DEGREES OFFERED: UNIVERSITY OF NEVADA SYSTEM

CHAPTER ONE

INTRODUCTION: HIGHER EDUCATION IN NEVADA



CHAPTER ONE
INTRODUCTION: HIGHER EDUCATION IN NEVADA

This report on higher education in Nevada is part of a continuous process of planning within the University of Nevada System (UNS). In 1983, Nevada 2000: Future Directions for Nevada's Colleges and Universities, which discusses public higher education in the state through the end of the twentieth century was published. Goals of the system, changing student demands, increased population, financial issues, future academic programs, and guidelines for planning were included in that report. This planning document represents University of Nevada System recommendations for public higher education in Nevada for the four-year period 1989-1993. This report contains what the Board of Regents considers to be major higher education issues in Nevada; responding to record increases in student enrollment, attaining needed fiscal support, providing quality education, providing access to education for Nevadans, participating in Nevada's economic development, and continuing the provision of high quality teaching, training, research, and public service. This report contains campus information on academic priorities and programmatic trends, capital construction needs, budget priorities, and comments about campus objectives and institutional goals.

Priorities for the University of Nevada System components were identified in Nevada 2000 and the following statements are adapted from that report.

Community Colleges: To provide comprehensive community college education services which include occupational education and continuing education to any citizen of the state who desires to enroll.

University of Nevada, Las Vegas: To provide comprehensive baccalaureate and graduate programs in liberal arts and sciences, the social sciences, sciences, humanities, and professional areas such as business education, hotel administration, health sciences, computer science, and engineering.

University of Nevada-Reno: To provide, as Nevada's land grant university, comprehensive baccalaureate and graduate programs in the liberal arts and sciences, mining, engineering, agriculture, medicine, and the professions.

Desert Research Institute: To conduct research needed by the State of Nevada for effective management of its natural resources and for the continued development and diversification of Nevada's economy.

Office of the Chancellor: To provide leadership in higher education, academic program coordination and planning for the system, and to provide informational, computing, financial, and budgetary support for the system and its campuses.

To accomplish these priorities, the Board of Regents sets statewide policy and coordinates through the Office of the Chancellor systemwide and institutional

objectives in the implementation of programs. The system office and the campuses within the University of Nevada System regularly engage in planning activities and in the review of current programs. On a biennial basis, a systemwide planning report is published which reflects the planning efforts of system institutions and which provides a statewide overview of public higher education in Nevada. These planning reports serve as regular updates of the system planning document, Nevada 2000.

Record Growth

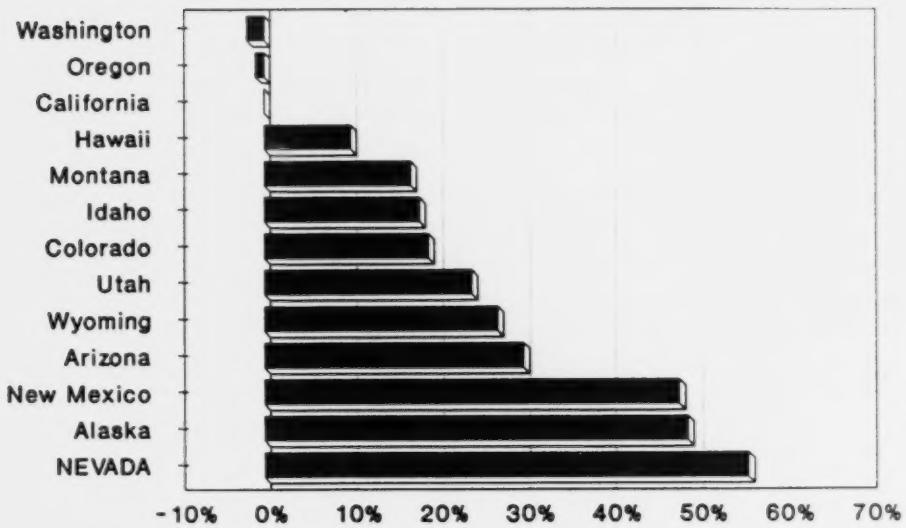
The issue of growth sets Nevada apart from other states, and presents a series of challenges to higher education in Nevada. The State of Nevada led the nation in the rate of change in college enrollments from 1976 to 1986, as noted in The Chronicle of Higher Education. Enrollment in Nevada's universities and colleges increased 56% over this ten-year period. In contrast to this phenomenal growth, enrollments in all colleges and universities in the nation grew by only 13.5% over this same decade. Only Nevada, Alaska, and New Mexico experienced growth rates in excess of 40% (see Figure 1).

The University of Nevada System now enrolls approximately 56,000 students and conservative estimates of annual growth rates of 5% yield an estimated enrollment of over 100,000 students by the year 2000. Last year, the University of Nevada, Las Vegas, and Clark County Community College grew at a rate of about 11%.

Figure 1

Percent Change in College Enrollment 1976-1986

13 Western States



Based on projections for enrollment for the next ten years, it is likely that Nevada campuses will continue their phenomenal growth rate. The Western Interstate Commission for Higher Education (WICHE) conducted a study of the number of high school graduates in various western states, including Nevada. Nevada is predicted to show a 39% increase in the number of high school graduates from 1988-89 to 1998-99, and to have one of the highest percentages of growth in this category in the nation. High school graduates traditionally comprise a large share of first-time students at colleges and universities. A recent survey of Nevada high school

graduates, conducted by the UNS Office of the Chancellor, found that 61% of 1988 seniors indicated they would most likely attend school the following year. With our recent record growth over the past two years, and with the projected increases in high school graduates in Nevada, the University of Nevada System will be seeing increasing enrollments for the planning period 1989-1993.

This extraordinary growth presents an impressive challenge to our universities and community colleges, to the Board of Regents which governs them, and to the Nevada Legislature, which will need to identify state revenues to support public higher education programs. The challenge facing the state and facing public education in Nevada will be to provide a superior quality system of colleges and universities and to provide student access to these programs, in light of significant growth and increasing demands on state fiscal resources.

Nevada Fiscal Affairs Study

The 1987 Nevada Legislature authorized an interim study of the fiscal affairs of the state and local governments in Nevada. The purpose of the study, conducted by The Urban Institute and Price Waterhouse, was to analyze existing revenues and possible new revenue sources. The report offers a long-range view of fiscal and tax policies for Nevada and makes many useful recommendations to the state legislature. However, the study, which was recently completed, contains an assumption about the growth of the University of Nevada System which, if used in

the short-term, would not recognize the growth of the system. As noted, over the past decade the University of Nevada System has been the fastest growing system in the nation. A 6% to 7% growth rate is likely each year through the year 1992 and even a more modest 5% annual increase through the year 2000 would result in an enrollment of over 100,000 students. In contrast to these numbers, figures provided by the recent fiscal affairs study project an approximate change of 1% to 2% annually to the year 2010.

If the University of Nevada System experiences a level of funding based on these projections, there will be serious and immediate consequences for higher education in Nevada. New academic programs, faculty resources, and construction of needed facilities will all be adversely affected. The study also does not address the capital construction needs of higher education, which are critical to our campuses. Instructional space is a high priority for UNS, and funds for construction for the future need to be secured. Accessible, affordable, high quality educational opportunities must be provided for Nevada citizens.

The Need for Full Funding of Support Formulas

The University of Nevada System is seeking over this planning period full funding for implementation of formulas adopted by the state legislature. These formulas were proposed by an interim legislative committee established by the legislature in 1985 to study the process used to secure steady and adequate funding for the University of

Nevada System. In turn, the 1987 Nevada Legislature recognized the importance of these support formulas and approved them for the university system. Although limited state revenues were available to address these needs, funds were provided to implement the new formulas at 20% of the request. The "1989-91 UNS Biennial Budget Request" includes 100% funding of these formulas by 1991. The support service formulas include the following areas: 1) Academic Support, 2) Student Services Support, 3) Improved Institutional Support, 4) Support for Operation and Maintenance of Physical Facilities, 5) Library Support, 6) Equipment Replacement, and 7) Graduate Assistant Support. Also critical to the provision of high quality programs at our community colleges and universities is a reduction in the instructional formula that would restore student/faculty ratios to pre-1981 levels; that is, to 20:1 for the universities and rural community colleges, and 24:1 for urban community colleges.

The reason for studying state formulas for the support of higher education in Nevada was based on the failure of the old system to adequately address areas of funding other than instruction. There is a clear and demonstrated need for the enhancement of funding formulas to provide for a wider base funding for all areas of higher education. State support is, of course, the critical area of fiscal resources for higher education in Nevada. Private support and other revenues have increased as well, but to meet the challenge of record growth discussed above, appropriate state support is needed.

Providing Access to Higher Education

"Access" concerns the ability of potential students to enroll in higher education. With the full development of the community college campuses, growth at the University of Nevada-Reno, and record growth at the University of Nevada, Las Vegas, the University of Nevada System has responded to the goal of access to higher education for Nevadans. As is discussed in Chapter Two of this report, more students are expected to enroll in postsecondary education in Nevada, the number of high school graduates is also expected to increase significantly, and Nevadans will continue to seek, in record numbers, education within the University of Nevada System. The Board of Regents has also endorsed a policy to encourage increased access for those who have not traditionally participated in higher education.

Because the UNS endorses a policy of enhanced access, significant state revenues will be needed just to keep pace with growth; that is, to hire the appropriate faculty, to obtain appropriate support equipment in libraries, laboratories, and computing; and to provide the physical space for instruction. Over the planning period, the impacts of providing access will continually be studied. For example, the Board of Regents has asked that each campus update and/or complete a comprehensive master plan for the physical development of their campus that is in concert with academic plans for campus programs. The campuses and the board will analyze various alternatives such as the construction of new campus centers,

new campuses, enrollment plans, and the use of new technologies for distance education.

Pursuing Quality Education

The issue of "quality" concerns the ability of the University of Nevada System to offer high quality instruction to all students who enroll. An important challenge facing the University of Nevada System is to continue to provide high quality education while at the same time providing access to increasing numbers of Nevadans. Campuses within the University of Nevada System will endeavor to ensure that the doors of the campuses will remain open to Nevadans, but also ensure that they are operating high quality academic programs as well.

. . . . .

The future is both challenging and demanding for the colleges and universities of Nevada as they respond to the challenges of growth, rapid change, diversification, and academic improvement. The campuses of the University of Nevada System will serve the state well as a valuable resource to prepare students to be productive and educated citizens, and to contribute to the economic and cultural growth of the State of Nevada.

CHAPTER TWO

PLANNING FOR GROWTH

CHAPTER TWO
PLANNING FOR GROWTH

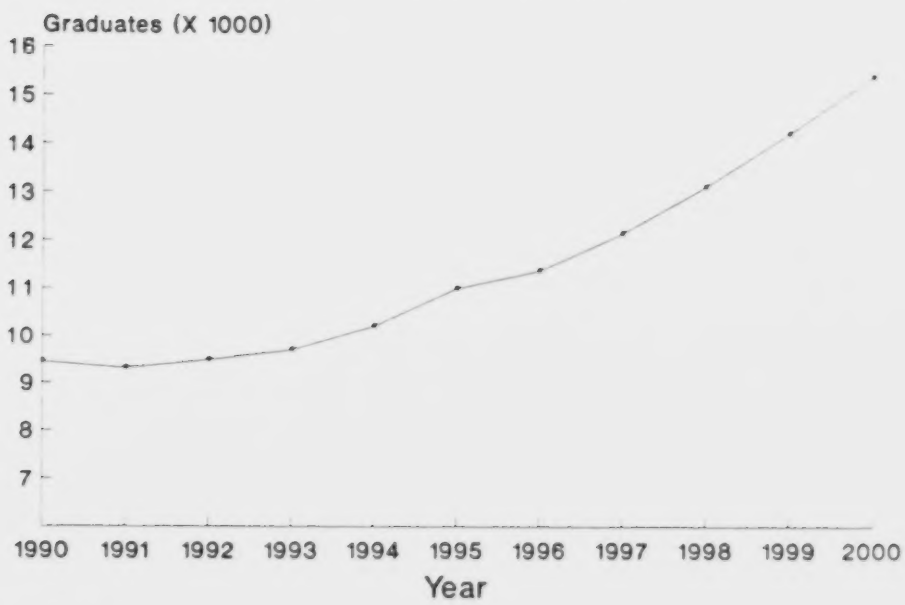
Between 1970 and 1980, Nevada had the fastest growing population in the nation. During these years, the state's population expanded by 63.8% to over 800,000 persons. This rapid growth has continued through the 1980's, and by 1987 the population had increased another 26% (according to the U.S. Bureau of the Census). By 1995, a population of nearly 1.2 million is expected. This increase in population has translated into increased enrollments for all University of Nevada System campuses. Nevada **led the nation** in the rate of change in college enrollments between 1976 and 1986 with a growth rate of 56%. Nationally, enrollments in all colleges and universities grew by only 13.5% over this same period. In 1976, University of Nevada System enrollment was reported at just over 30,000 students; by 1986 enrollments had reached nearly 50,000, representing an average increase of over 5% per year. In 1987, UNS enrollment reached 53,187 students, an additional increase of 6.4%, and for the 1988 fall semester enrollment was 56,246, an increase of 5.8%. To plan properly for future enrollments and to predict their influence on University of Nevada System campuses, it is necessary to look at national and state demographics, including the changing mix of age and ethnic groups.

High School Graduates

Although all UNS campuses report an increase in the number of nontraditional students, the single largest source of students is still new high school graduates. On the national level, WICHE is projecting decreases in the number of high school graduates between 1988 and 1992. According to these predictions the number of high school graduates in the United States will not return to the 1988 level until 1998. However, in the western states, the decrease in the early 1990's will be less severe and the recovery will be more pronounced than in other areas of the country. For Nevada, WICHE has actually projected **increases** in the size of this population over the next several years.

Figure 2

Projected High School Graduates
Nevada Public Schools

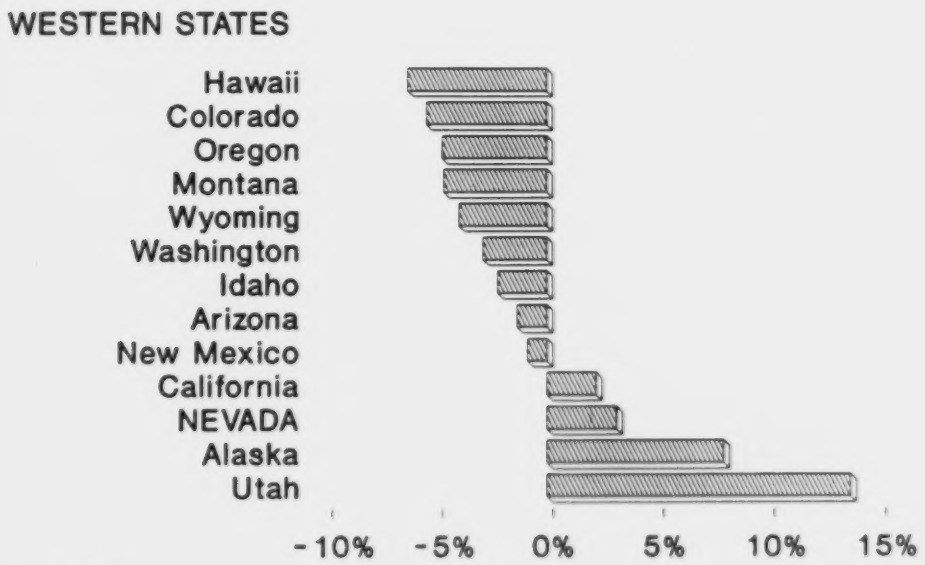


Source: WICHE

Nevada is one of only four western states to show an increase between the years 1989-90 and 1992-93 (see Figure 3) and when these projections are carried out to the year 2000, only Alaska exceeds Nevada's rate of increase (see Figure 4).

Figure 3

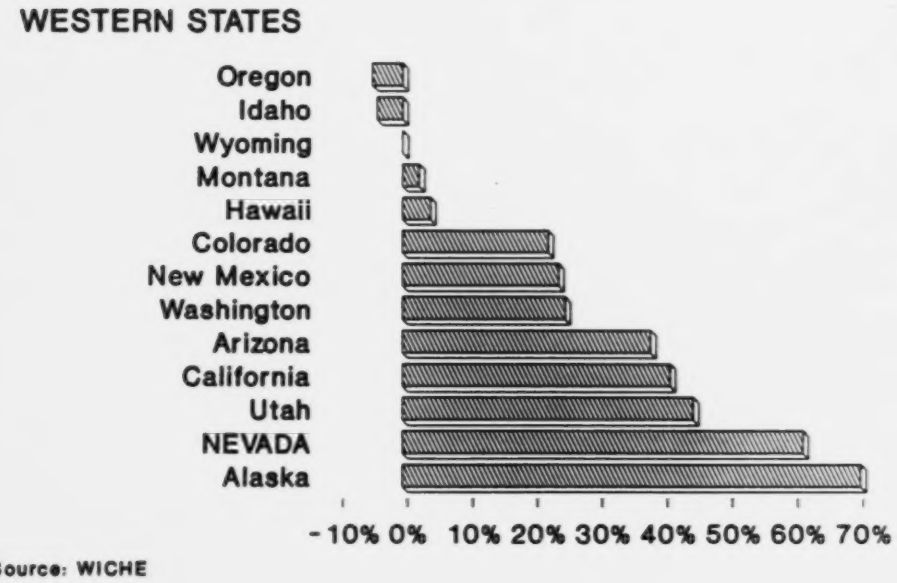
Percent Change in High School
Graduation Rates
1990 to 1993



Source: WICHE

Figure 4

Percent Change in High School
Graduation Rates
1990 to 2000



Source: WICHE

Most Nevada high school seniors intend to pursue some type of postsecondary program. The University of Nevada System Survey of Nevada High School Seniors - 1986 provided information that a large proportion (82%) of Nevada high school seniors expected to enroll in postsecondary programs, and when the survey was repeated in 1988 this proportion had grown to 83%. Thus, not only will the number of high school seniors be increasing over the next four years, but the vast majority of these students will be seeking postsecondary education.

Nontraditional Students

When compared to other states, Nevada ranks low in the percentage of the population who are under 25 years old. According to 1987 Census Bureau data, only two states have a lower percentage of their population in the 18- to 24-year-old age group (the traditional college student age) and only ten states have a lower percentage of their population under 17 years of age. However, only two states have a higher percentage of their population who are between 25 and 34 years old, and 44% of Nevadans are over 34 years old. It is predicted that during the 1990's the number of 45- to 64-year-old persons in Nevada will increase by nearly 60%, while other age groups will experience much more moderate growth rates. According to all projections, Nevada's population will continue to contain a high number of older citizens.

In 1987, the average age of a University of Nevada System student was 27 years, and 43% of UNS students were 30 years old or older. Perhaps it is because the University of Nevada System has been successful at attracting these older, nontraditional students that the number of part-time students has increased steadily during the 1980's. In 1981, 67% of students systemwide attended part time. By 1987, Nevada led the nation in the percentage of part-time students, with 71% of all students attending college part time. This figure decreased slightly, to 70%, in 1988. In the 1990's, the number of older and part-time students is likely to increase, and their impact on all UNS campuses will be great. Resources must be provided to

meet the special needs of these older, part-time students who will require more and different student services, as well as traditional services during the evening and weekend hours when these students are available for classes.

Minority Students

In 1980, Nevada ranked in the top ten states in terms of percent of population who were Asian (1.9%), American Indian (1.8%), or Hispanic (6.7%). It is estimated that between 1985 and the year 2000 the total population of the United States will increase by 12.3% and that 60% of this increase will occur among minority populations. Indicators such as school district counts suggest that Nevada's minority population is likely to increase dramatically by the year 2000. The Nevada Employment Security Department conservatively estimates the 1988 minority population at 18.9% of the total population, and the Nevada Department of Education estimates that in 1988 nearly one-quarter of the school-age population consists of minority students.

In the UNS, minority enrollments increased 3.6% from 1982 (11.8%) to 1988 (15.4%). In 1977, 239 or 9.7% of all certificates and degrees awarded by the UNS were awarded to minority students. By 1988, those numbers had increased to 490, or 14.8% of the total. While these increases are positive, it is clear that minority students are still not enrolling and completing certificates and degrees at a level that equals their proportion of the population. Encouraging minority participation in the UNS must continue to be a priority issue.

UNS Enrollment Projections

In 1983, the Office of the Chancellor, University of Nevada System, produced a report titled Nevada 2000: Future Directions for Nevada's Colleges and Universities. Using the demographic data available in 1983, this report projected an enrollment of 69,000 for the University of Nevada System by the year 2000. It now appears that the official state population estimates underestimated the rate of Nevada's growth. For the last ten years, the University of Nevada System has experienced tremendous growth, and in 1987 enrollment had already exceeded the figure that had been predicted for 1990. Beginning with the 1988 enrollment figures, only a 1 and 3/4 percent annual growth rate is needed to match the 69,000 figure projected for the year 2000. The 1988 headcount enrollment for the two UNS universities already exceeded the projection for the year 2000 by almost 400 students, and the 1988 FTE enrollment figures for the two universities is only 1,328 FTE under what was projected for the year 2000. Headcount and FTE enrollments since 1981 are listed in Tables 1 and 2, and illustrated in Figures 5 and 6.

Table 1

University of Nevada System
Student Headcount Enrollments, Fall 1981-1988*

	Fall 1981	Fall 1982	Fall 1983	Fall 1984	Fall 1985	Fall 1986	Fall 1987	Fall 1988	8 Year % Change
Universities**									
UNR	9,601	9,988	10,334	10,420	9,817	10,245	10,624	11,282	17.3%
UNLV	10,544	11,452	11,085	10,988	12,008	12,846	13,778	14,825	40.6%
University Sub-total	20,145	21,440	21,419	21,408	21,825	23,091	24,402	26,087	29.5%
Community Colleges**									
CCCC	8,995	10,077	9,704	9,821	11,098	13,000	14,211	14,335	59.4%
NNCC	1,617	1,738	1,586	1,538	2,000	2,018	2,079	2,005	24.0%
TMCC	7,673	8,248	8,387	7,555	7,429	7,946	8,483	9,083	18.4%
WNCC	2,825	2,543	2,992	3,253	3,381	3,944	4,012	4,736	67.6%
Community College Sub-total	21,110	22,606	22,649	22,167	23,906	26,908	28,785	30,159	42.9%
SYSTEM TOTAL	41,255	44,046	44,068	43,575	45,731	49,999	53,187	56,246	36.3%

* Figures may not total due to rounding.
**University Registrar's First Reports, community colleges as of 10/15.
IR 11/88

Figure 5

University of Nevada System
Headcount Enrollments

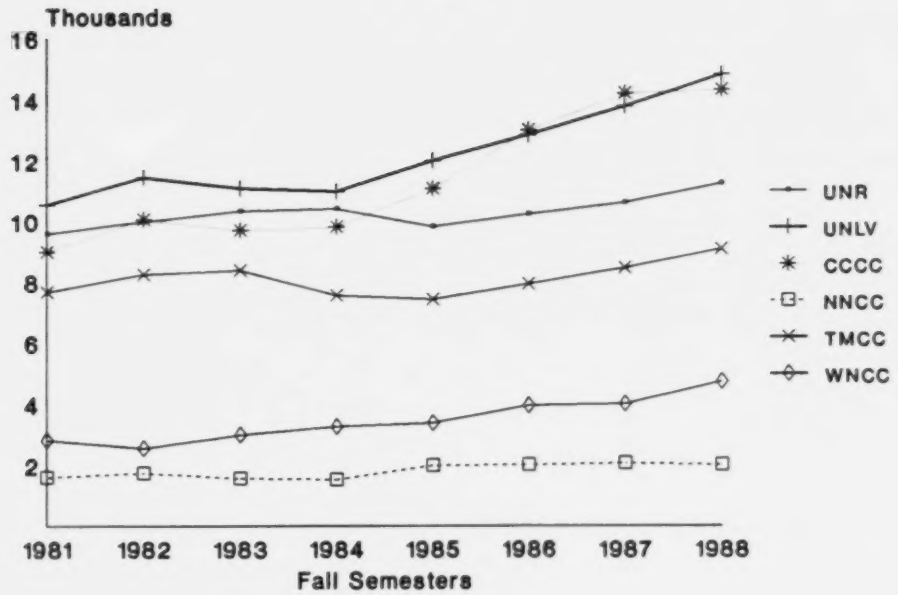


Figure 6

University of Nevada System
FTE Enrollments

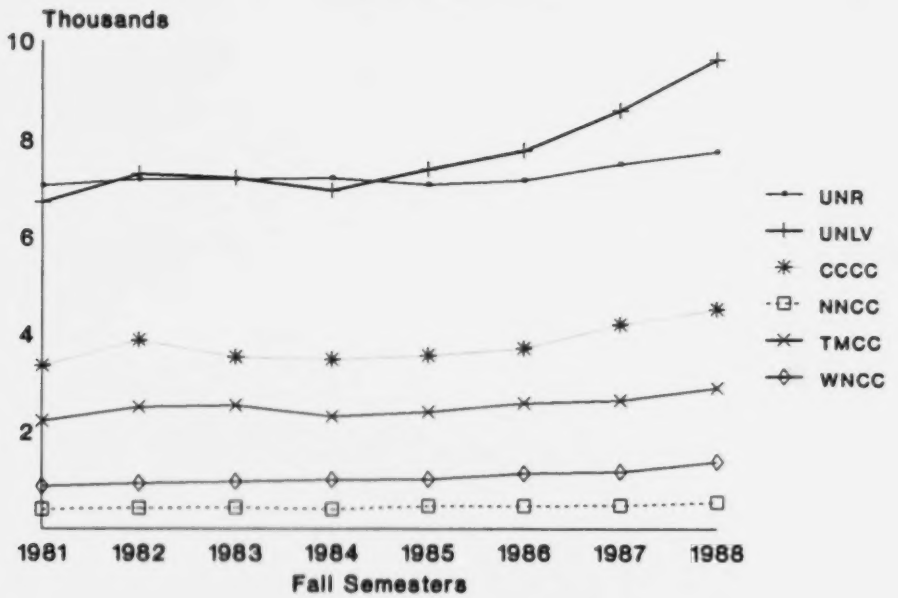


Table 2

University of Nevada System
Student FTE Enrollments, Fall 1981-1988*

	Fall 1981	Fall 1982	Fall 1983	Fall 1984	Fall 1985	Fall 1986	Fall 1987	Fall 1988	8 Year % Change
Universities**									
UNR	7,055	7,178	7,185	7,207	7,068	7,159	7,497	7,743	9.8%
UNLV	6,712	7,295	7,200	6,958	7,381	7,773	8,593	9,624	43.4%
University Sub-total	13,767	14,473	14,385	14,165	14,449	14,932	16,090	17,367	26.1%
Community Colleges**									
CCCC	3,329	3,858	3,513	3,470	3,550	3,692	4,179	4,492	34.9%
NNCC	394	424	427	401	483	466	474	538	36.5%
TMCC	2,195	2,481	2,522	2,298	2,387	2,566	2,627	2,883	31.3%
WNCC	858	920	956	999	1,007	1,125	1,162	1,372	59.9%
Community College Sub-Total	6,776	7,683	7,418	7,166	7,407	7,849	8,442	9,285	37.0%
SYSTEM TOTAL	20,543	22,156	21,803	21,331	21,856	22,781	24,532	26,652	29.7%

* Figures may not total due to rounding.
**University Registrar's First Reports, community colleges as of 10/15.
IR 11/88

In 1988, each University of Nevada System campus was asked to provide an estimate of its FTE growth rate for the next four years. The estimates provided by each campus are presented in Table 3.

Table 3

Four-Year FTE Growth from UNS Institutions

	1987-88 Actual	1988-89 Pred.	1989-90 Pred.	1990-91 Pred.
UNLV	8,500	9,520	10,424	11,310
UNR[1]	7,011	7,285	7,563	7,918
CCCC	4,066	4,371	4,614	4,845
NNCC	500	537	587	637
TMCC	2,596	2,825	3,047	3,232
WNCC	1,202	1,350	1,426	1,526
UNS TOTAL[2]	24,065	26,080	27,853	29,468

[1] Does not include approximately 192 FTE from Medical School
[2] Does include approximately 192 FTE from Medical School

Annual percent changes and an average percent change, calculated using the data in Table 3, are presented in Table 4. Almost all University of Nevada System campuses are anticipating an average growth rate of 6% or better for the next biennium.

Table 4

Four-Year FTE Growth (Percentages) from UNS Institutions

	1988-89 % Change	1989-90 % Change	1990-91 % Change	Average Annual % Change
UNLV	12.0%	9.5%	8.5%	10.0%
UNR[1]	3.9%	3.8%	4.7%	4.1%
CCCC	7.5%	5.6%	5.0%	6.0%
NNCC	7.4%	9.3%	8.5%	8.4%
TMCC	8.8%	7.9%	6.1%	7.6%
WNCC	12.3%	5.6%	7.0%	8.3%
UNS TOTAL[2]	8.4%	6.8%	6.5%	7.2%

[1] Does not include approximately 192 FTE from Medical School

[2] Does include approximately 192 FTE from Medical School

To project FTE enrollments for the final two years covered by this Planning Report, the projections provided by the campuses for 1990-91 (see Table 3) were multiplied by the average rate of increase between the years 1987-88 and 1990-91 (see Table 4). The projections for 1991-92 and 1992-93 are presented in Table 5 and illustrated in Figure 7.

Table 5

UNS FTE Enrollment Forecasts
1991-92 and 1992-93

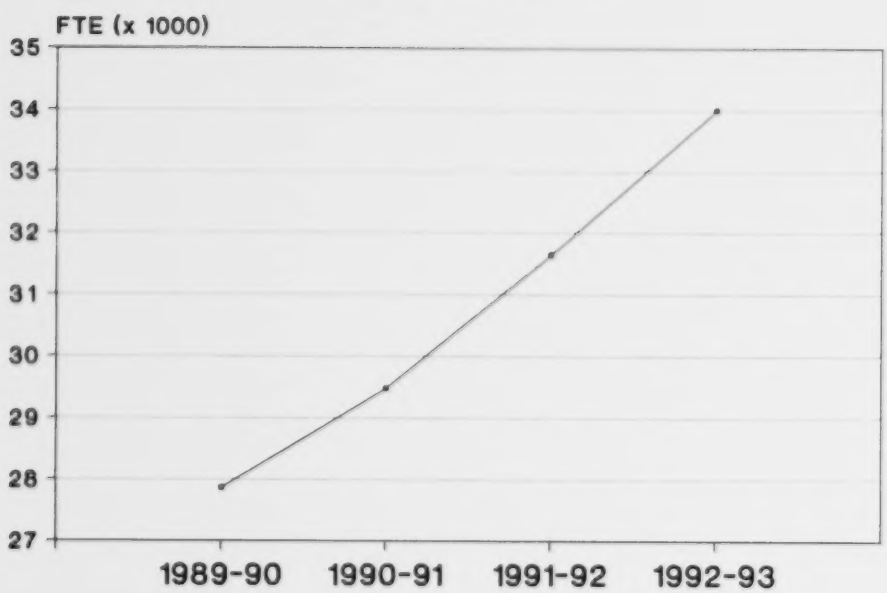
	1991-92 Predicted	1992-93 Predicted
UNLV	12,441	13,685
UNR[1]	8,243	8,581
CCCC	5,136	5,444
NNCC	691	749
TMCC	3,478	3,742
WNCC	1,653	1,790
UNS TOTAL[2]	31,834	34,183

[1] Does not include approximately 192 FTE from Medical School

[2] Does include approximately 192 FTE from Medical School

Figure 7

UNS FTE Projections
1989-90 to 1992-93



Long-range enrollment forecasts are difficult to predict, especially in a state like Nevada which has a rapidly changing population base and which has the potential for even greater change. Therefore, various ranges of enrollment forecasts are presented in Table 6 for planning purposes. Table 6 illustrates the range of values that result when the 1988 fall semester FTE and headcount enrollment figures are multiplied by flat rates of increase and extended to the year 2000.

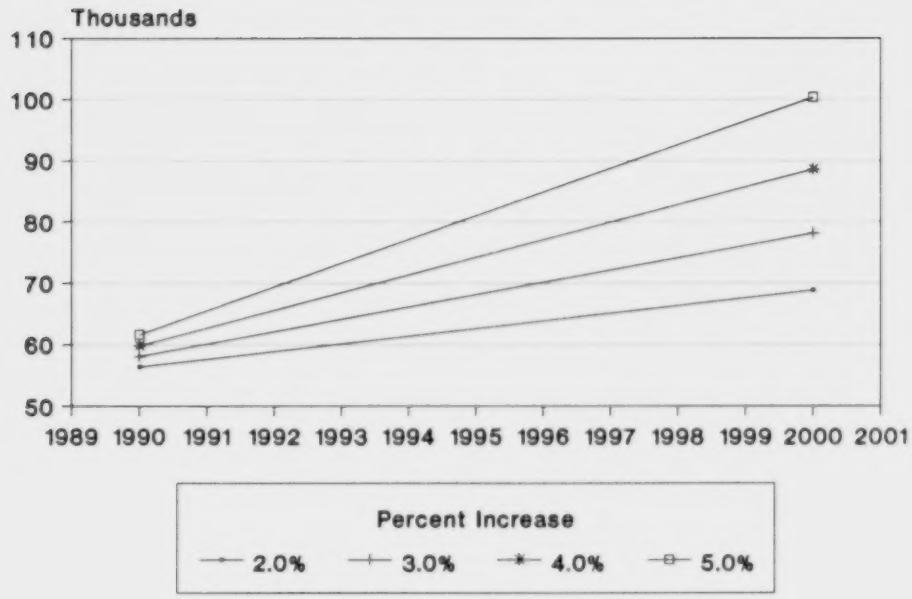
Table 6

UNS Enrollment Forecasts for Selected Rates of Increase

Annual Increase		1990	1995	2000
2.0%	FTE	27,729	30,615	33,801
	Hdct	58,518	64,609	71,334
2.5%	FTE	28,001	31,681	35,844
	Hdct	59,093	66,859	75,645
3.0%	FTE	28,275	32,779	37,999
	Hdct	59,671	69,175	80,193
3.5%	FTE	28,550	33,909	40,273
	Hdct	60,252	71,561	84,992
4.0%	FTE	28,827	35,072	42,671
	Hdct	60,836	74,016	90,052
4.5%	FTE	29,105	36,270	45,199
	Hdct	61,422	76,543	95,387
5.0%	FTE	29,384	37,502	47,863
	Hdct	62,011	79,144	101,010

Figure 8

UNS Headcount Enrollment Forecasts
for Selected Growth Rates



The demographic information for the State of Nevada indicates that Nevada will continue to be one of the country's fastest growing states. If the University of Nevada System continues to attract a high percentage of high school graduates, a large number of older, nontraditional students, as well as an increase in the number of minority students who participate in UNS programs, the system should mirror Nevada's growth and be among the fastest growing educational systems in the United States.

Financing System Growth

As student enrollment is expected to increase by over 7% annually over the next biennium, adequate financing of higher education becomes even more important. The Board of Regents has reaffirmed its commitment to provide high quality education for Nevada citizens and to seek necessary funds.

University of Nevada System Biennial Budget Request

The system request for the 1989-91 biennium consists of a "Base Budget" and "Priority Requests for New Funding." The **base budget** extends the 1989 operating budget into the next biennium with adjustments for projected student enrollment increases, requests to fund the previously approved budget formulas discussed above, and adjustments for past legislative actions, inflation, and selected special adjustments. Priority requests are for new funding and are in addition to the base budget. The total biennial base budget request is $381,619,102.

Priority requests for new funding are grouped into four categories: Salary increases for faculty and administrators, requests related to Nevada's economic development and diversification goals, computing requests serving academic and administrative needs, and new programs. The total biennial request is for $88,917,867. This includes $27,878,127 in "one time" expenditures.

The top priority is for salary increases for faculty. In an effort to be competitive in recruiting and retaining top-quality teachers, researchers and academic

administrators in the national marketplace, the Board of Regents adopted goals to achieve salary levels in the top quartile of comparable institutions nationwide. Increases of 21% over the biennium, 11% in 1989-1990, and a 10% increase in 1990-1991 are recommended. The total request for the 1989-1991 period is $32,239,219.

The second priority is a request for support of Nevada's efforts to enhance economic development and diversification. $29,220,903 will be sought to provide scholarship funds, research venture capital, instruction and research equipment, technical support ratios and pilot projects for occupational programs, funding to enrich nursing and developmental programs, and requests to establish business and industry divisions within the community colleges.

Priority number three contains requests related to academic and administrative computing. The academic request is designed to provide University of Nevada System institutions with a mainstream environment for computing instruction and research, as well as state-of-the-art instructional facilities to serve students and faculty. This is a prerequisite to the administrative request which will enable acquisition of the modern hardware and software for student records, financial accounting, and personnel payroll functions. A total of $19,445,839 is requested.

The fourth priority request is for $8,011,906 to fund new programs in the area of telestudies, masters' degree programs in social work, health care, professional development for faculty, and additional fields of study at the community colleges (see Table 7).

Table 7

University of Nevada System
1989-91 Biennial Budget Request

Combined Summary

	1987-88 Operating Budget	1988-89 Operating Budget	1989-90 University Request	1990-91 University Request	Priority #1 Salaries	Priority #2 Ec. Dev. & Di.	Priority #3 Computing	Priority #4 New Programs	Total Biennial Request
System Administration	$ 1,333,630	$ 1,405,490	$ 1,589,405	$ 1,750,474	$ 291,100	$ 597,000	$	$1,246,845	$ 5,474,824
UNS Special Projects	3,542,306	2,214,672	1,244,672	1,244,672					2,489,344
Computing Services	4,624,028	4,820,769	5,164,120	5,324,545	642,405		8,215,661		19,346,731
Rad/Tox. Safety Bd.	179,005	176,679	192,525	200,516	27,401			93,636	514,078
University Press	250,472	262,917	269,406	276,356	35,688	63,733			645,183
UNR	40,682,397	43,660,708	51,747,222	57,802,480	8,546,224	9,086,472	3,109,417	1,193,113	131,484,928
School of Medicine	8,324,272	9,497,825	9,785,934	10,073,039	2,282,337	716,011		1,744,689	24,602,010
UNR - Athletics	905,047	959,835	1,028,842	1,048,959	281,066				2,358,867
UNR - Statewide	2,875,094	3,012,711	3,222,250	3,309,191	522,112	367,474			7,421,027
Ag. Exp. Station	4,234,029	4,428,275	4,600,225	4,730,172	778,389	989,798			9,761,359
Coop. Ext. Serv.	3,802,128	3,991,576	4,150,526	4,251,567	1,062,084	297,182			11,098,584
UNLV	39,408,129	43,237,932	55,344,639	62,878,576	10,373,003	8,611,800	3,048,419	825,830	141,082,267
UNLV - Athletics	896,293	942,447	1,028,842	1,048,959	209,211				2,287,012
UNLV - Statewide	385,767	404,515	415,574	425,619	94,188				935,381
CCCC	11,439,743	12,263,132	16,411,263	19,199,577	2,907,664	3,241,826	2,868,400	1,242,330	45,871,060
NNCC	2,260,897	2,473,364	2,941,643	3,556,711	474,354	385,339	276,380	161,849	7,796,276
TMCC	8,152,715	8,911,693	10,803,713	12,539,700	1,985,201	3,309,152	1,002,790	751,433	30,391,989
WNCC	4,044,253	4,472,726	5,918,417	7,212,451	1,139,768	658,436	531,172	368,253	15,828,497
Business Center North	908,404	964,289	1,073,958	1,213,779	84,069				2,371,806
Business Center South	776,536	824,191	921,771	1,062,632	79,522				2,063,925
NDSL	30,000	30,000	30,000	30,000					60,000
DRI	1,278,331	1,344,560	2,249,625	2,304,555	423,433	896,680	393,600	383,928	6,651,821
UNS TOTAL	$140,333,476	$150,300,306	$180,134,572	$201,484,530	$32,239,219	$29,220,903[A]	$19,445,839[B]	$8,011,906[C]	$470,536,969[D]

A Includes $16,235,371 in "one time" expenditures
B " $11,609,747 " " " "
C " $33,009 " " " "
D " $27,878,127 " " " "

AMENDED 11/22/88

University of Nevada System Formula Funding

An interim legislative committee recommended support formulas to the 1987 session of the legislature which would recognize differences among UNS institutions as well as meet needs associated with growth. Although the 1987 legislature recognized the importance of these formulas, limited state revenues were available to address these needs. The University of Nevada System was provided funds to implement them at 20% of the request. This has enabled the universities to hire additional graduate assistants, enhance support services including student services, and increase funding for libraries. In addition, community colleges received more full-time instructors, library books, and other funds.

In order to provide a stable, dependable budget which addresses basic needs of University of Nevada System institutions, the 1989-91 UNS budget request includes 100% funding of these formulas by 1991. If 100% funding can be accomplished, all institutions will be positioned to address the challenges of the 1990's and beyond with a sound infrastructure that accommodates rapid growth, provides new services, improves existing services and corrects inadequacies created by previous funding practices.

The following is an overview of specific formulas and their estimated impact on University of Nevada System institutions for 100% funding during 1989-1991.

Support Services Formulas include the following areas:

1) Academic Support recognizes the numbers of colleges and schools each institution operates and links financial support to the size of instruction. A formula to address library holdings is also included in this category.

2) The Student Services formula benefits areas such as residential housing, admissions and registration, tutoring, counseling, advising, minority affairs, and recruitment efforts.

3) An improved Institutional Support formula would benefit functions such as campus security, affirmative action, alumni relations, presidents' offices, and budget personnel.

4) Operation and Maintenance of Plant formulas are based on building size, campus size, and numbers of students enrolled.

Other support services include:

5) Library acquisitions would be determined by applying a version of the nationally known Clapp-Jordan formula statewide, which takes into account the number of students enrolled.

6) An equipment replacement formula would be linked to the value of the year-end equipment inventory, providing a more reliable process.

7) The number of university graduate students would be linked to undergraduate FTE faculty and graduate enrollment.

The proposed **Instruction Formulas** would restore student/faculty ratios at all colleges to pre-1981 levels; 20:1 for universities and rural community colleges, and 24:1 for urban community colleges. Another high priority involves increasing the numbers of full-time faculty employed by the four UNS community colleges. The University of Nevada System goal is 70% full-time faculty to 30% part-time faculty, the national average for community colleges. The current ratio is 57:43.

The **Equipment Replacement Formula** supports the replacement of obsolete equipment based upon the cost and size of existing inventory.

Capital Construction Needs

The University of Nevada System Board of Regents recommends that significant needs for classrooms and instructional space be met in the state's capital construction budget, and that the system's capital construction request be funded in priority order as submitted by the Board of Regents. Further, the Board of Regents will seek legislation to return dedicated Higher Education Capital Construction (HECC) funds to the University of Nevada System. By agreement and legislation, these funds ($5 million annually) were dedicated to UNS construction needs; however, since 1983, they were diverted to other uses. Due to significant maintenance and construction needs, these funds should be allocated to meet campus priorities.

In order to serve the needs of the burgeoning student population, and to accommodate instruction, faculty, and research, UNS campuses must address both maintenance and remodeling as well as construction of new facilities. Reflecting this need, two lists encompassing a four-year period (1989-1993) have been submitted to the 1989 legislature for consideration. Priorities have been established for maintenance and remodeling projects, and for new construction and expansion projects. Total requests for new construction projects are $113.66 million (see Table 8). Many of these projects are described below.

Table 8, cont.

University of Nevada System
New Construction and Expansion Projects
1989-1993
(In Millions)

Priority	Institution	Project	Scope Existing/New	Source of Funds State	Non-State	Total	Cumulative
18.	UNR	Speech Path. & Aud.	N	1.50		1.50	67.75
19.	UNLV	Student Housing Landscaping	N	1.00		1.00	68.75
20.	CCCC	Physical Plant Expansion	N	.80		.80	69.55
21	DRI	Northern Nevada Facility	N	7.80		7.80	77.35
22.	UNR	Clinical/Med. Facility (Las Vegas)	N	4.50		4.50	81.85
23.	CCCC	Advanced Tech. Center	N	2.50		2.50	84.35
24.	DRI	So. Nev. Facility, Phase II	N	6.30		6.30	90.65
25.	UNR	Track Facility	N	.20		.20	90.85
26.	UNR	Med. Lib. Expansion	N	1.51		1.51	92.36
27.	UNR	Life Sci. Res. Center	N	8.90	$ 1.00	9.90	102.26
28.	UNR	Nursing School Addition	N	1.40		1.40	103.66
29.	UNLV	Classroom and Faculty Office Bldg.	N	10.00		10.00	113.66
Sub-Total New Projects				$ 46.41	$ 1.00	$ 47.41	
TOTAL NEW CONSTRUCTION AND EXPANSION PROJECTS				$109.16	$ 4.50	$113.66	

Table 8

University of Nevada System
New Construction and Expansion Projects
1989-1993
(In Millions)

Priority	Institution	Project	Scope Existing/New	Source of Funds State	Source of Funds Non-State	Total	Cumulative
1.	UNLV	Health Sciences, Phase I	N	$ 7.70		$ 7.70	$ 7.70
2.	UNS	So. Nev. Computing Center	N	1.50		1.50	9.20
3.	TMCC	Phase V	N	4.40		4.40	13.60
4.	DRI	So. Nevada Facility, Phase I	N	3.50		3.50	17.10
5.	CCCC	West Charleston (Health Sci. Center)	N	4.50		4.50	21.60
6.	UNR	Engineering Lab Center	N	7.50		7.50	29.10
7.	CCCC	Cultural Perform. Arts. Center	N	5.50		5.50	34.60
8.	CCCC	Henderson Campus, Phase II	N	2.50		2.50	37.10
9.	WNCC	Fallon Campus, Carson Campus LRC	N	1.50		1.50	38.60
10.	NNCC	Technical Building	N	1.50		1.50	40.10
11.	UNR	Journalism Building	N	1.73	$ 3.50	5.23	45.33
12.	UNLV	Health Sciences, Phase II	N	3.60		3.60	48.93
13.	UNLV	Astronomy Observatory	N	.96		.96	49.89
14.	CCCC	Child Development Addition	N	.90		.90	50.79
15.	UNLV	Expand Chemistry Building	N	2.16		2.16	52.95
16.	UNLV	Wright Hall Expansion	N	6.00		6.00	58.95
17.	TMCC	Phase VI	N	7.30		7.30	66.25
Sub-Total Previously Approved Projects				$62.75	$ 3.50	$66.25	

Present and projected enrollment at the **University of Nevada, Las Vegas** will result in the increase of 174 additional faculty in the next biennium. This will create a need for added classroom and office space. Construction of Phase I of a Health Sciences Building at UNLV is identified as a first priority for the University of Nevada System. As the resident population of students grows, new dormitories beyond the four recently completed will be needed.

The University of Nevada, Las Vegas has been successful in private fund raising for capital improvements. Four new dormitories, a public safety building, and a Student Health Center are all being funded by private gifts to the university. It is essential that this success continue, as capital improvement needs in the future will be great.

As the **University of Nevada-Reno** has a large number of older buildings (most are over 20 years old), campus improvement requirements are always of critical concern. In addition, remodeling of a portion of the Fleischmann Ag/Life Sciences building and remodeling and upgrading of residence halls and other facilities have been identified as part of the campus improvements which are a high priority for the university.

Development of an Engineering Laboratory Center will house laboratory and research space for civil, mechanical and electrical engineering. Additionally, it will provide space for the College of Engineering faculty of 45 and student enrollment of 800. The 1987 legislature appropriated $425,000 for design, contingent upon the

university generating $1 million in gift funds. The gifts to date have exceeded this amount and planning is underway for the facility.

Proposals identified by **Clark County Community College** include space needs at the Cheyenne campus at the Cultural and Performing Arts Center, which includes a component for business and industrial training. The construction of a second building at the Health Sciences Center is needed to continue the multi-phase development of that facility. Other projects include construction of another building on the Henderson campus to meet the needs of increased student interest in that facility, and modification of the Child Development Center at the Cheyenne campus. Development of an Advanced Technology Center which would help to serve the needs of existing and future industries in southern Nevada is also proposed. A final project is the renovation of the physical plant that will better facilitate support for the instructional programs on campus.

Northern Nevada Community College's instructional facilities were built for students and programs of the 1970's, and the are now outdated and undersized. Construction of a Technical Arts building to provide classrooms, offices and shops or occupational technical staff is needed. A joint college/high school occupational/technical facility is a possibility which will be investigated. A minimum of $200,000 will be required to purchase and expand the present facility at the Winnemucca Center. At Elko, $250,000 will be required to build and resurface parking lots and reroof McMullen Hall.

Capital construction needs at **Truckee Meadows Community College** include classroom and laboratory space, dedicated computer rooms, a child development center, and a student union/gymnasium. There is also interest in cooperating with the City of Sparks for the development and funding of a Technical Training Center. Plans to utilize rented space in the local area for programs in refrigeration/ar conditioning, food service, hospitality, construction technology, criminal justice and fire science will be pursued.

The next phase of construction of classroom and laboratory facilities at the Fallon campus will be a priority for **Western Nevada Community College**. Expansion of the Learning Resources Center at the Carson City campus will also be emphasized as a major goal. Due to a continuing lack of adequate instructional space, Phases IV and V of expansion of the Carson City campus are also considered priorities.

In order to serve the increasing scientific and technical needs of the state, the **Desert Research Institute** seeks support for research laboratories and scientist offices in the Las Vegas Science Center, building maintenance and site improvements of the Dandini Building, and physical infrastructure for Phase I of the Dandini Research Park.

With the continued growth of the University of Nevada System, the Board of Regents has determined that each campus shall establish and/or update a comprehensive physical plant master plan. Based upon established guidelines, each

campus was allocated $15,000 of Regents' Special Projects Funds to develop plans by June, 1989. A statewide committee will review individual plans and develop an overall University of Nevada System Master Plan.

CHAPTER THREE

CAMPUS ACADEMIC PLANS AND PRIORITIES

CHAPTER THREE
CAMPUS ACADEMIC PLANS AND PRIORITIES

In order to respond to the extraordinary growth of the University of Nevada System and to provide continued quality for Nevadans who enroll in both community colleges and universities, UNS institutions continue to review and revise existing programs. Proposals for the development of a select number of new programs reflect the demands of a growing population and a demonstrated need in specified areas.

As **Clark County Community College** has experienced tremendous growth in the last few years, one of the primary academic priorities of that campus will be to review and ascertain the quality of instruction and the curriculum. The transfer programs at CCCC are functioning effectively, as the college has committed faculty, with course work designed for appropriate transfer within the University of Nevada System. There is a continued need for major expansion in the area of technology programs, as successful technical programs require special attention and personnel resources. If these programs are to be viable, students should be ready to enter the work force immediately upon graduation.

Since the curriculum is dynamic, it is necessary to consider not only change and expansion, but the possible deletion of programs. As CCCC continues its four-year cycle of program review, consideration will be given to the possibility of deleting programs which do not appear to continue to serve the community. As an example,

with massive changes in available technology in the area of court reporting, the college must give consideration to the future need for people trained in this field.

A number of new programs are either being developed or have been identified for future consideration. In the health area, these include geriatric services, physical therapy and mental health technology. Other programs under consideration are recreation and resort technologies, which would include food service and culinary arts, as well as travel and tourism. Industrial maintenance technology, surveying and civil engineering, and manufacturing technologies such as machinists, robotics, computer numerical control and computer integrated manufacturing also are under review.

The service area of **Northern Nevada Community College** is experiencing tremendous growth due to the rapid development of gold mines in the area. The Center for Mining Education, which is now in its infancy, has been successful from the beginning, and NNCC feels a strong obligation and opportunity to expand the services in the center in order to serve the mining industry and to ensure quality programs. Expansion of the center's programs in diesel and automotive technology, mining technology, and computer training are planned, along with the establishment of programs in mill mechanics and industrial supervision.

Northern Nevada Community College will enhance its general education curriculum by adding programs in communications, computer science, foreign language, and speech and theatre, which are staples of lower division undergraduate

education. In addition, NNCC plans to add support staff in adult/continuing education, as well as to improve the organization, management and direction of occupational education. The college will seek national accreditation for its nursing program and aims to revitalize its office administration program.

Truckee Meadows Community College has secured federal funds which will be used to survey employers' needs for training existing personnel. In addition, three new committees will be working with the Washoe County School District on program articulation. Plans call for continuation of growth in the areas of child development, the welding program, and fire science programs. Continued expansion of technology in new computer programs emphasizing computerized accounting and development of courses on computer-aided design/computer-aided manufacturing are also anticipated. The college will develop an operating facility for food service programs, and cooperative possibilities exist for the food service and hospitality programs, which could include a student-run facility operated for the college.

It is anticipated that new certificate or associate degree programs will be established in the following areas: instrumentation, refrigeration/air conditioning, home repair/construction, desktop publishing, civil or mechanical technology, security guards, entrepreneurship, mental health technician, paralegal and paramedic programs. A pilot program is being developed in architectural design, automotive technology, and computer technology, which will involve a shift of emphasis to competency-based education, lower teacher/student ratios, and additional equipment.

Western Nevada Community College will place continued emphasis on occupational education and programs which serve emerging and established business and industry. The areas of need have been identified as automated manufacturing (robotics), drafting, electronics, machine technology, CAD/CAM, computer science, data processing, word processing, secretarial, supervisory, and management training. There will also be strong continuing growth in technical education, including support technology for local industry.

Further development of campus facilities will be emphasized, so that programs can be consolidated at the Carson campus. In addition, WNCC plans to continue to offer short-term computer, data processing, and management training programs for state agencies and local businesses and industries. The articulation of occupational programs with high schools in the college's service area will also be continued. The college will continue to work closely with the Nevada Economic Development Commission to establish "Quick Start" training for new industries in the district.

Further development of occupational programs will include a Center for Creative Change which will serve the mutual needs of local industries and the college. Through this center, WNCC will continue its emphasis on the development of customized training programs for business and industry.

A greater emphasis will be placed on telecommunications (distance learning) to deliver instruction to rural centers. Community education offerings will be expanded to serve more immediate, short-term training needs, as well as avocational and

cultural enrichment interests. An additional goal will be the development of an Academic Skills Center which will include assessment and placement services for all students in the areas of communication and computational skill levels.

The **University of Nevada, Las Vegas** plans to develop a number of new programs due to the dramatic and dynamic growth during the past four years and because of the institution's obligation to meet the expectations of a larger student body at both the undergraduate and graduate levels. The programs below are representative of plans at this time; however, it is highly unlikely that UNLV will be able to develop and implement all of these in the next five years. It is also probable that UNLV may see changes in direction during this period which would necessitate modifications in program planning.

In the College of Arts and Letters, it is anticipated that proposals will include bachelors' degrees in dance, film studies, music and geography. At the master's level, consideration will be given to degrees in criminal justice, dance, and jazz studies. A master's degree in social work will be implemented in 1989. Doctoral degrees will be considered in history, political science and psychology. The College of Business and Economics anticipates an executive master's of business administration, a health services option in the master of public administration program, and a master's degree in financial economics. A Ph.D. in business is planned for the future.

Because of the influx of Asian and Hispanic students in the Clark County School District, the College of Education plans to institute a bachelor's degree in English as a second language, bilingual, and language acquisition education. A specialist in education degree in school psychology, a Ph.D. in education, a master's degree in recreation administration and a Ph.D. in exercise science are under consideration, as well. An Ed.D. in administration and sports management is in the early planing stages. Due to the growth of the College of Engineering, it is anticipated that Ph.D. programs will be developed in computer science and electrical engineering, as well as a master's degree program in architecture.

The health sciences area is becoming increasingly more critical to Nevada and the nation; consequently, UNLV has devoted considerable attention to its health-care programs. Bachelors' degrees in medical records administration, physical therapy, occupational safety and health, occupational therapy and dietetics are under consideration. The following master's level programs are anticipated: physical therapy, clinical laboratory sciences, speech pathology and audiology, and health care administration. A Ph.D. in nursing will be considered at some point in the future. The College of Hotel Administration will explore the possibility of a Ph.D. program. The College of Science and Mathematics will propose a new bachelor's program in biochemistry, a master's in life sciences and Ph.D.'s in environmental analytical chemistry, geology, physics, mathematics, and biological sciences.

In the area of existing programs, specific emphasis will be placed upon attaining accreditation for programs that are not yet accredited, and this status will be retained for all programs presently enjoying accreditation. The University of Nevada, Las Vegas will also continue its steadily increasing research activity in all academic areas.

The **University of Nevada-Reno** will focus over the next several years on maintaining high quality programs and an excellent environment for students and faculty. Few new academic degree programs will be added; however, a core curriculum for all undergraduate students is under development. An important feature of this core will be a major emphasis on writing. In addition, an upgraded Honors program will be available in 1989.

The few programs to be initiated in the upcoming years will focus primarily on Nevada's needs. A master's degree in social work will be implemented in 1989. A certificate program in gerontology is planned, along with an enhanced research and public service commitment to gerontology and geriatrics. The university also anticipates strengthening its overall presence in the area of nutrition.

In addition to the emphasis on quality in instructional programs, research will continue to be a priority. While some research areas have achieved national recognition, it is important that the state's land grant university have more highly competitive research programs. Considerable progress is being made in this area, with external grants and contracts awarded to university faculty increasing from $9.5 million in 1984-85 to $21.1 million in 1987-88. During the next several years, the

university must strengthen its research support services and continue to hire outstanding faculty in order for the recent trends to continue.

As Nevada's land grant university, service to the public will always be an important component of UNR's activities. The School of Medicine will continue to expand its commitment to serving all of Nevada. Similarly, the Cooperative Extension Service will maintain an emphasis on serving the needs of Clark County with programs tailored especially for that population.

Programmatic objectives of the **Desert Research Institute** include strengthening the research capabilities and expertise of its five research centers. For the Atmospheric Sciences Center, this includes expansion of satellite remote sensing capabilities to improve observations of lower atmospheric conditions and precipitation processes. Development will continue on ASC's federally funded Western Regional Climate Center and in extended applications of the center's program of atmospheric water resources research.

The Biological Sciences Center will expand its research into the earth's biosphere to improve understanding of complex environmental interactions necessary for more effective management of biological resources.

The Desert Research Institute's Quaternary Sciences Center, formerly the Social Sciences Center, was renamed to reflect the reorientation of the center program focus toward paleoenvironmental studies examining the evidence of climatic change in the arid West in the last 1.8 million years (Quaternary Epoch) and the adaptive

strategies of human cultures during the last 20,000 years. The center's existing paleoecological and anthropological research capabilities are being augmented with a dendrochronological laboratory.

The Water Resources Center is building on its base as an internationally recognized authority for arid lands hydrology to become a "Center of Excellence" in the field of contaminant transport in groundwater systems. This research is developing and/or applying advanced borehole and surface geophysical analytical techniques for characterizing the uptake and movement of hazardous wastes. The center is heavily involved in graduate training programs in hydrology and geology on the University of Nevada campuses in Reno and Las Vegas.

The Desert Research Institute's Energy and Environmental Engineering Center has pioneered the latest technology for characterizing the nature of urban air quality problems, using methods developed at DRI for "fingerprinting" pollutants as a means of identifying their various sources. The center is also involved in major studies related to acid deposition on the national level and is the leading research group conducting these studies for the State of California.

Proposed new programs for the Desert Research Institute include a science and technology assistance program which will provide a vital support component to Nevada's science and technology-based economic diversification and development. A research program in planetary systems sciences will involve the establishment and maintenance of an artificial biosphere for lunar base workers, as well as lunar robotic

mining and construction processes.

Churchill County has requested that DRI conduct a cultural resources survey of the drought-exposed areas of the Stillwater Wildlife Refuge as significant archaeological resources have been exposed due to receding water. The Institute will also participate in an emerging area of study in global earth systems science which deals with the energy, hydrologic and biochemical processes that link the Earth's land masses, water bodies and atmosphere as an organic system. A Nuclear Science and Technology Center in Las Vegas will be established to address concerns specific to Nevada's experience and future environmental exposure to nuclear materials.

Summary

The proposals outlined above reflect University of Nevada System responses to the challenge of maintaining and implementing high quality academic and research programs, in light of increased enrollment and population growth in the state. As can be seen, some campuses plan to initiate relatively few programs, while focusing on enhancing the quality of existing programs, while other institutions which are experiencing tremendous growth will expand offerings to provide students with a variety of academic offerings.

CHAPTER FOUR

STUDENT ACCESS TO HIGHER EDUCATION

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STUDENT ACCESS TO HIGHER EDUCATION

As our society changes and as economic and demographic shifts continue, the ability of the U.S. to compete in world markets will increasingly depend upon our ability to educate our youth. One of the most significant issues in higher education over the next two decades will be the providing of access to quality education to students. Broadly defined, access means that educational opportunities are provided to all who are able to benefit from the experience. Students should be given the opportunity to enroll and the tools to persist toward their stated goal. Barriers to this opportunity can result from academic underpreparation, lack of valid information about educational opportunities, financial or geographical constraints, or an institutional climate that is not supportive of student needs.

Ensuring access to quality higher education for Nevada's citizens is a challenging and complex task. The impact of tremendous state growth, as well as efforts to develop and diversify the state's economy present a challenge to our higher education system. Access to programs and institutions must be maintained and in some cases increased as more students seek educational opportunity in its increasingly diverse forms. Most policy decisions by the Board of Regents and the campuses over the next biennium will have some impact on student access;

however, policies concerning academic programs, capital construction projects, admission requirements, tuition and fees, and financial aid will likely have a serious impact on student access.

The University of Nevada System, through the efforts of the Board of Regents, the Chancellor's Office and the campuses, has placed access to quality education high on the educational agenda. In order to reach the goal of providing quality educational opportunities for Nevada's citizens, the chancellor and his staff have undertaken and planned several projects to ensure and expand access to quality higher education.

Growth

In order to maintain educational opportunity the University of Nevada System must be able to predict the number of students who will seek admission to the UNS campuses. As outlined in Chapter Two, enrollment growth throughout all campuses is projected to continue through 1993 and beyond. The University of Nevada System currently enrolls 56,246 students.

Every other year, the Chancellor's Office conducts a survey of Nevada high school seniors to determine their postsecondary plans. Responses to this survey provide us with valuable planning data, especially concerning future demands for higher education in the state. The 1988 survey results indicated a growing number of Nevada seniors who intend to pursue some form of higher education at Nevada

colleges and universities. Eighty-three percent of the 6,760 survey respondents indicated that they intend to continue their education sometime in the future; and 63% intend to pursue either a two- or four-year degree program, an increase of 5% over the number of respondents with the same intentions in 1986. Sixty-one percent of survey respondents intend to enroll in a postsecondary educational program in the year following their graduation, a 2% increase from 1986 results. Eight percent more of the 1988 students (65%) intend to enroll in Nevada institutions than did their counterparts in 1986. These findings reinforce our projections of continuing enrollment growth throughout the UNS. As the number of high school graduates increases to a projected level of over 15,000 by the year 2,000, it is likely that nearly 2/3 of each high school graduating class will plan to attend a University of Nevada System campus the year following their graduation.

While recent high school graduates will continue to make up a large proportion of enrollments, they will not be the only group seeking education from our campuses. It is also projected that rapid technological change in the workplace will send increasing numbers of workers back to school for training and retraining. It is projected by the year 2000 that between 2% and 3% of the nation's work force will need to be retrained each year, a task that will likely fall to community colleges.

Students

The future for the University of Nevada System is one in which it will serve not only larger numbers of students, but also an increasingly diverse group of students. Changing demographics, both nationally and in Nevada, will affect the population of enrolled students. The University of Nevada System will continue to serve both traditional and nontraditional students, recent high school graduates seeking more traditional degree-track programs, and workers entering or reentering the work force seeking appropriate occupational skills.

Demographic and economic trends will continue to affect higher education. Although the U.S. population continues to grow, overall that growth has slowed significantly and will continue to do so. By the year 2000, it is projected that the percentage share of the total population aged 15 to 30 years old will decline from the current 40% of the population to 30% of the population. As this population continues to shrink, higher education, the military, and business will increasingly compete for these same people. The effect of this competition on higher education will likely accelerate the trend toward an increased number of part-time and older students. As job opportunities become more plentiful, predictably in the entry level category, students will likely try to balance work and education or may delay higher education. The composition of this cohort of the population is also changing. Minority youth will constitute a growing proportion of this age group. In 1985, minorities made up 25.5% of the college-age population; it is projected that by the

year 2000 minorities will make up 30% of this group, and by 2050 will make up 45% of this group.

Historically, members of some minority groups have not participated in higher education in the same proportion as majority youth. While minority youth constituted 25.5% of the national college-age population in 1985, minority students composed only 17% of the total enrollment in higher education for that year. In Nevada, as in the rest of the nation, access to higher education by those who have not traditionally participated will become more and more important as we increasingly depend on this population for our economic future.

The University of Nevada System Board of Regents has placed the issue of minority student access and achievement as a priority issue. A systemwide task force was formed in 1987 and charged to study minority student recruitment, admissions, and retention throughout the system and to make timely recommendations to the board. The task force report, Preparing to Win, issued in June 1988 reported that while minority student enrollment is increasing throughout the UNS, minority students, with the exception of Asian students, still do not enroll in higher education at the same rate as their white counterparts. In 1988, it is projected that 18.9% of the total Nevada population is minority; however, the Nevada Department of Education reports that 22.9% of the school-age population is minority, and 23% of the Nevada high school seniors surveyed in 1988 identified themselves as minority students. Only 14% of the 1988 UNS student enrollment is minority,

however. Perhaps more significantly, the 1988 Nevada High School Senior Survey identified differences in intentions to enroll in postsecondary education programs between certain minority groups and Asian and white students. Seventy-three percent of Asian students and 66% of white students indicated intentions to pursue a college degree, while 52% of Hispanic students, 53% of Black students, and 46% of American Indian students indicated similar plans.

The University of Nevada System Board of Regents and the campuses are currently developing policies and plans to increase the participation of minority students on each campus, and to design and implement measures that will increase retention and successful completions of programs for underrepresented students. The board matched a $21,600 federal grant that was used to sponsor statewide programs designed to increase the number of minority and female junior high school students who elect mathematics and science courses in high school, thereby increasing these students' readiness for postsecondary education. Additionally, a minority grant-in-aid program has been proposed in the UNS budget.

Removing Barriers

In addition to planning for adequate programs and facilities to meet current and increased student demand and in addition to increasing access for those students who have not traditionally participated in higher education, the University of Nevada System continues to take action to remove barriers to access. Current policies and

procedures regarding admission requirements, tuition and fees, and outreach and student services are being reviewed, and where appropriate, may be modified to better meet access priorities.

Admission requirements to institutions or programs must be set in order that they are appropriate to the mission of the school or program and so that they do not restrict entrance of those who could be successful in the program. They must also be set to ensure that entering students possess adequate preparation and prerequisites for success. Nothing is gained in admitting students to programs in which they are destined to fail. Our community colleges maintain an open admissions policy, and as such they are often the first step to educational opportunity for many students. The University of Nevada System has placed a high priority on adequate funding for developmental programs for those students who are admitted to these institutions without adequate preparation for success. The UNS will continue to study the proper balance between admissions requirements and ensuring access.

Policies concerning tuition and fees must take into account the cost of education and the proper role of the family and the state in paying the cost of education. Tuition and fees have remained low in Nevada. The Chancellor's Office will be conducting a study in the near future to determine whether our current policy for setting fees is adequate. At the same time, trends will be examined in financial aid to determine whether aid is available at adequate levels for Nevada students.

Finally, if we are to successfully ensure access to higher education to the citizens of Nevada, we must continue to inform prospective students and their families of the programs available through University of Nevada System campuses. To that end, the system Public Information Officers recently published a joint "Viewbook" describing University of Nevada System campuses and programs offered throughout the system. As the campuses grow and as new programs are offered, it will become more important to get accurate, timely information on UNS programs, admission requirements, and financial aid to high school personnel, students, and parents.

Summary

The challenge facing policy makers and educational planners in Nevada over the next two decades is enormous. Access to programs and institutions must be maintained as more students seek educational opportunity in its increasingly diverse forms. Increased access for those who have not traditionally sought higher education must be actively pursued as a state policy goal if we are to maintain economic competitiveness. The goals of quality education must also be equally pursued, for access without quality is an empty promise to students. It will become increasingly important for University of Nevada System institutions to define their mission and goals, to cooperate to provide a rich and diverse educational environment for Nevada citizens, and to reaffirm the goal of access to quality education for all who are able to benefit from it.

CHAPTER FIVE

PURSUING QUALITY EDUCATION

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The campuses of the University of Nevada System may indeed be able to accommodate tremendous student enrollment growth and also provide improved access to education for students, but these accomplishments will not be meaningful unless these students are able to enroll in high quality programs. The issue of "quality" concerns the ability of the University of Nevada System to offer high quality instruction to all students who enroll. One challenge facing the University of Nevada System, therefore, is to pursue both goals simultaneously. How can the system pursue both goals with limited resources? How do we ensure that the doors of the campuses will remain open to Nevadans but achieve academic excellence as well? These are classic issues of higher education public policy. In the community colleges, programs ranging from developmental education for citizens learning basic skills to nursing education are in need of funds and talented faculty to maintain and improve the quality of instruction; and they face the need as well for improved space and facilities to enroll more students. This is also true at the universities at the baccalaureate level and at the graduate level.

The Board of Regents and the campuses have taken several actions in the pursuit of quality education, including setting a faculty salary goal at the top quartile of comparable institutions, allowing us to recruit and retain excellent faculty; setting

new university admission requirements, encouraging student outcomes assessment programs at the campuses, and strengthening research, including a proposal to increase the amount of recovery of indirect costs to the campuses. These and other issues are discussed below.

Faculty Salary Goals

A primary goal for the University of Nevada System continues to be the support of high quality faculty. Excellence in teaching, research, training, and public service is dependent upon recruiting and retaining faculty on a competitive basis. The ability to expand and enhance quality instructional and research programs for a growing system of community colleges and universities is contingent upon this goal.

The Board of Regents identified faculty salaries as its first priority for new funding in the 1987 biennial budget request, with the objective of placing salaries in the top quartile of the nation. The regents have reaffirmed this commitment in the 1989-91 biennial budget request.

University Entrance Standards

Effective in the fall 1989, new entrance requirements will be implemented at both the University of Nevada, Las Vegas and the University of Nevada-Reno. To ensure a strong foundation of knowledge and competencies, entering freshman will be required to complete a minimum core of 13 and 1/2 units of high school course

requirements for admission. The University of Nevada System has worked closely with the State Department of Education to develop a master list of courses offered by Nevada high schools which will fulfill specific requirements. Establishment of these requirements reaffirms both the Board of Regents' and universities' commitment to quality education. In addition, there has been interest in adopting a set of university admission requirements which would focus on increased grade point averages, class standing, or test scores. Campus-based committees have been established to conduct research and seek public comments in relation to proposals for new requirements. Recommendations will be made to the Board of Regents.

Performance Evaluation and Educational Outcomes

Measuring outcomes of the educational process provides institutions with the means to review their performance, as well as demonstrate accountability to the public. Multiple indicators may be used to assess both student and institutional performance and should be based upon the mission and goals of the institution.

A University of Nevada System policy on student assessment has been developed to ensure that each institution has an appropriate plan of regular student educational assessment. Once approved and implemented, plans will reflect campus mission, programs, and type of students; however, where appropriate, the universities and community colleges will work together to develop common approaches.

The mission of Nevada's community colleges includes providing occupational programs, developmental education, and liberal arts or transfer programs. Campuses have identified and continue to evaluate a number of effective measurements to indicate the progress of learning and the levels of skills at the completion of these very diverse programs.

At present the University of Nevada, Las Vegas and the University of Nevada-Reno utilize a variety of sources of data and experiences to evaluate the quality and effectiveness of undergraduate education. Both campuses are currently in the process of comprehensive studies to build upon this foundation, and develop appropriate outcomes assessment measures which can be used to assure students and the public of the quality of undergraduate education.

In 1987, the Board of Regents determined that review of existing academic programs would be conducted by each institution on a regular cycle to assure academic quality and to determine whether need, student demand, and available resources support their continuation. In order to facilitate planning, these reviews may be triggered by regional accreditation reviews.

All University of Nevada System campuses hold institutional accreditation by the Northwest Association of Schools and Colleges. This is a process which recognizes educational institutions for performance, integrity, and quality. The evaluation process is a major enterprise and involves the development of a comprehensive self-study which often consists of two years of preparation, visits to the campus by an

evaluation team and final review by the Commission on Colleges. The normal intervals for review are five years following initial accreditation and ten years thereafter. In the fifth year of the ten-year cycle, institutions are required to submit an interim report. The University of Nevada-Reno recently completed a two-year self-study report in conjunction with a major ten-year review. On the basis of this study and an evaluation team visit, accreditation was reaffirmed in December, 1988. In addition, accreditation was reaffirmed at the University of Nevada, Las Vegas on the basis of an interim report and visit in 1987. Other campuses are in varying stages of the cycle.

Specialized accreditation of professional schools and programs is granted by a number of national organizations. Many programs at both the universities and community colleges hold specialized accreditation status.

In addition to the regular program review and accreditation process, several distinct studies are taking place. A **statewide review of technical education programs** offered by Nevada's community colleges is currently underway. In cooperation with the American Technical Education Association, two consultants visited each of the four community colleges in October, 1988. A system report and recommendations will be made to the Board of Regents in early 1989. Issues being examined include the quality of instruction, funding, competitiveness in attracting new

industry, coordination of programs, and review of agreements with secondary schools and universities. These and other areas identified must be addressed in order to provide the type of training necessary to prepare for Nevada's future.

In 1987, a Nursing Education Subcommittee was established by the UNS Health Care Education Task Force. The charge to the subcommittee was to develop an **improved plan for the transfer of nursing students** within the University of Nevada System. In January of 1988 a report was submitted to the Board of Regents. That report included a three-phase plan designed to facilitate the attainment of a baccalaureate degree in nursing by graduates of Nevada associate degree programs. This plan will result in the direct transfer of 30 to 31 lower division nursing credits into either of the two university programs, eliminating the need for special examinations.

A separate but related action taken by the Board of Regents calls for all community college nursing programs to seek specialized accreditation by the National League for Nursing. This will ensure the availability of clinical learning facilities, the recruitment of quality students and faculty, and improved employment and educational opportunities for graduates. In addition, anticipated curricular revisions which are planned in conjunction with seeking accreditation will facilitate the direct transfer of lower division credits into the two university nursing programs.

Research in Higher Education

Goals of the University of Nevada System as described in Nevada 2000 are to provide instruction, research and public service to the citizens of Nevada. These goals are interdependent and complementary. Research is a necessary component of quality instruction, as well as a source of new knowledge.

While some research areas have achieved national recognition, it is important that the state's universities have more highly competitive research programs. Prior to 1985, the universities received 25% of the indirect cost recovery from research grants and contracts, with the state retaining 75%. During the 1985 legislative session, this ratio was changed to 50/50. This did not result in a reduction of state funds, as the change provided an incentive for faculty to retain and seek additional grants. In fact, the dollars realized increased considerably.

Priority number two of the Biennial Budget Request, "Economic Development and Diversification," identifies a request by the universities to increase the share of indirect cost recovery from 50% to 75%. The combined biennial request for both universities is $2,024,767. It is anticipated that the same outcome will occur, with no decrease in revenue to the state. Adoption of this proposal would strengthen resources for research.

The Impact of Pursuing Quality Education on the University of Nevada System

The impact of pursuing these goals affects campus plans and budgets in many ways; for example, they impact the recruitment of new faculty. Because of growth, large numbers of new faculty will be recruited at our campuses, and because of competition in the higher education environment, to obtain the most highly qualified faculty, salaries need to be competitive. This, in turn, has an impact on biennial budget requests to the legislature, as both the number of faculty needed in the system and the level of faculty recruited are on the increase. As we are a labor-intensive organization, the impact on the budget request will be large, as increased resources from the state are needed for progress. Another area of impact is in facilities, equipment, and support for academic programs. For first-class instruction, first-class equipment laboratories and computers are needed, and there will be corresponding requests for these resources.

Another area in which impacts will be felt is in the area of admissions at the universities. As enrollments grow, students prepared for college-level work will be admitted to the universities according to appropriate admission standards, and the community colleges will remain "open door" to serve Nevadans who can benefit from such an experience and prepare themselves for transfer to the universities. The University of Nevada System, over the planning period, will consider raised admission standards at the universities.

CHAPTER SIX

STATE ISSUES IN HIGHER EDUCATION

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Serving the state and meeting state needs is a continuing goal of the University of Nevada System. State needs exist in many areas where the university system may respond, including economic development, job training, scientific research, engineering education, the use of new technology, computing, and health care education.

Economic Development

Nevada's State Plan for Economic Diversification and Development notes that:

> "Quality education is a leading factor in Nevada's economic diversification potential. Educational excellence must begin in grade school and continue through the university system. A private/public partnership will yield persuasive benefits. Business and industry depend on education for long-term provision of competitive advantages, including a skilled work force, research services, and life-time learning opportunities."

The attainment of educational excellence, as the plan notes, "requires an executive and legislative budgetary commitment, comparable to surrounding states."

The University of Nevada System, in partnership with government and private industry, is an integral part of state plans for economic diversification and development. Benefits of high quality postsecondary education will not only accrue to the state, but to people as well who wish to expand their knowledge, improve their skills, and achieve personal development. The economy of the United States is

now a knowledge- and information-based industry, and to be competitive in the international marketplace, our citizens and our economy are dependent upon relevant and high quality educational programs.

The 1988-91 Report of the Education Commission of the States notes that governors, legislators, and education policy makers are discussing common themes across the states, including the importance of economic development to ensure competitiveness in world markets and the importance of an educated citizenry and work force to ensure economic development. The report discusses key issues such as economic growth, economic diversity, redevelopment, competitiveness, and diversification. Higher education is a partner in all of these activities, and it is an appropriate time for our colleges and universities to engage in creative collaborations with businesses in areas such as training and new technologies, applied research, and product development.

Higher education in Nevada helps provide an educated citizenry and aids individuals in achieving personal growth. It also has a direct impact upon the economic vitality of the state and the nation. The state plan calls for enhanced resources for higher education and recommends several additional initiatives, such as the establishment of product development centers, research parks, a statewide research fund, and start-up capital for occupational training courses. The capacity to accomplish research, and the ability to train and retrain Nevada's work force, are central attributes of our university and community college campuses. Clearly, these

campuses are major contributors to the development of human resources, high technology, and the development of managers, all important components of economic development.

Improving partnerships with business and industry will contribute toward economic growth and development of the state. Both universities provide expertise in scientific, business, health, and other areas, and are major producers of business and professional leaders in Nevada. Organized programs for the development of new jobs, economic forecasting, and resources which benefit both business and citizens are provided through a variety of centers and research institutes. The Desert Research Institute will also continue to be a valuable resource to the state. Economic expansion and diversification will continue to be closely bound with higher education.

The University of Nevada System Biennial Budget Request is divided into the "Base Budget" and "Priority Requests for New Funding." Of the priority requests, priority number two concerns economic development and diversification. Contained in this section are requests for research venture capital, pilot projects for occupational programs, funding to enrich nursing and developmental programs, special scholarship funds, and requests to establish business and industry divisions within UNS community colleges. The total dollar request for priority two is approximately $29 million.

Of special note are scholarships for students that would have a definite impact on the numbers and types of students enrolling in our programs and in serving in Nevada's work force. "Regents' Scholarships" are requested to attract Nevada's best and brightest students to remain in the state for their education and, then, join Nevada's work force. Also requested are vocational scholarships to allow exceptionally talented occupational students to pursue their goals at the community colleges and minority student grants-in-aid to serve the increasing numbers of minorities in the state to achieve educational goals. The total request for these scholarships amounts to $298,500 per year.

The universities are seeking an increase in the return of indirect cost funds from 50% to 75%. This is an important proposal that would provide needed resources to support further research capabilities. The campuses are also requesting needed equipment for research and instruction. Without state-of-the-art technology and equipment, it is difficult to be competitive for national grant awards or to provide the private sector with relevant and timely research and training. Proposed at the University of Nevada-Reno is a logistics management program, expansion of health-related research programs in the School of Medicine, and the strengthening of research capabilities in the Agricultural Experiment Station. The University of Nevada, Las Vegas is also seeking significant support for instruction and research equipment, approval for a technical support ratio for needed positions to support research, and other categories to support its ability to serve the state.

The community colleges have two significant proposals to meet statewide needs. One includes the reduction of the student/faculty ratio in nursing from 10:1 to 7.5:1. The community colleges have made a commitment to seek specialized accreditation from the National League for Nursing to signify the existence of high quality nursing programs at the community colleges. The reduction in the ratio would result in increased faculty and greater support for nursing programs at the community colleges. Because of the nursing shortage in the State of Nevada, the increasing number of aged in the state population, and increasing demands for health care, the community colleges are seeking additional support for nursing programs. The second proposal concerns the reduction of the ratio for developmental education from 24:1 to 15:1. As the community colleges are involved in work force training, and as the demographics of the state change, the community colleges have faced an increasing demand to offer developmental English and developmental mathematics to Nevadans wishing to acquire these skills. As this is directly related to the skills of the work force and the ability of these students to progress to other educational opportunities, it is important that increased support be provided to developmental programs at the community colleges. The community colleges are also seeking the creation of Centers for Business and Industry Training. The activities of these centers will be directly related to economic activities in the service area of the community college.

System needs are comprehensive and extensive, and they are related to campus abilities to achieve educational and training goals. The primary goal for the future is to raise and maintain the quality of higher education in Nevada. Over the planning period, our campuses will continue to seek success in research, in occupational training, and in areas ranging from mining technology to nursing and medicine in order to better meet the challenge of economic development. The Desert Research Institute will continue to conduct millions of dollars of contracted research for governmental and private organizations demonstrating integration into the economic life of the state. With enhanced support, the University of Nevada System can provide Nevada with a competitive advantage in our changing economy.

Health Care Education

Nevada's growing and changing population is increasingly placing demands upon the health care delivery system. As the major in-state source of health care providers, the University of Nevada System will continue to play a significant role in this economic and social issue. In April 1987, the Board of Regents of the University of Nevada System assembled a UNS Health Care Education Task Force to begin an assessment of the issues related to health care education in the state, and to undertake a planning process which would better ensure that the UNS provides, to the best of its ability, the skilled health care providers needed by the citizens of Nevada. This is a significant issue for the University of Nevada System, as we

continue to provide almost all in-state health care education programs. The final report of this task force will be released this winter and will address the following issues: manpower supply and demand in Nevada, the changing demographics in Nevada, the impact of new health care technologies, the state's cost containment efforts, the effects of health insurance programs especially the federal role, and other concerns. Each of these issues has had, and will continue to have, a profound effect on health care education programs in the state.

A particular concern of this task force has been nursing education programs in the state. Because all campuses in the system offer programs in nursing education, and because there is a real desire to improve the transfer of nurses from program to program and from one degree level to another, considerable attention has been devoted to nursing articulation. A Nursing Subcommittee of the task force has proposed a plan for improved articulation that was endorsed by the Board of Regents and will be fully implemented by 1991. In addition, each of the community college campuses will be seeking NLN accreditation for their nursing programs on a schedule approved by the board. This decision to seek specialized accreditation speaks to the commitment of University of Nevada System campuses to provide high quality education for students in the health care fields. Finally, the task force has devoted considerable time and effort to examining the shortage of nurses in the state and how UNS campuses might assist in alleviating this shortage. A policy paper examining this issue was presented to the Board of Regents in March 1988, and the

campuses continue to develop plans to increase enrollment and retention of nursing students.

The University of Nevada School of Medicine is addressing several statewide concerns through the Area Health Education Center (AHEC) Program. This federal program has provided funds to bring university health training programs to rural communities and underserved areas in order to improve the geographic and specialty distribution of health professions in the state. In addition, the Medical School continues its statewide mission of providing patient care and educational programs in both rural and urban areas throughout Nevada.

In an era of increasing costs of providing high quality education; spiralling health care costs; rapid technological advancements; an aging population; and concerns of access to quality health care by all, but especially by the elderly, the poor, and minority groups, it is appropriate for institutions of higher education to focus on strategies for offering health sciences educational programs. The social costs of educating the wrong kinds of health care providers are high, both in the cost of the educational programs themselves, and in the impacts on the cost of health care.

Experimental Program to Stimulate Competitive Research - EPSCoR

Nevada EPSCoR has been funded by the National Science Foundation (NSF) since the beginning of 1987. The program has three basic objectives:

1. Improve the quality of research being conducted in Nevada,

2. Increase the number of nationally competitive scientists and engineers and, thereby, the Federal funding in Nevada, and,

3. Effect long-term gains in the research environment of Nevada.

Nevada's rapid population growth provides an opportunity to develop excellent programs in the University System and the Nevada EPSCoR plan has, from the beginning, focused on the development of such programs and centers. National Science Foundation funding in an amount of more than $3 million over five years has been obtained. The state has provided $3 million in matching funds and institutional commitments for direct and indirect costs amount to nearly $3 million more, for a total EPSCoR budget of just under $9 million.

EPSCoR currently provides funds for five university programs: the Department of Chemistry, UNR; the Department of Biochemistry, UNR; the Department of Physics, UNLV; the Biological Sciences Center, DRI; and the Quaternary Sciences Center, DRI. Each of these programs has a five-year plan for its development and the achievement of its ambitions toward national recognition. The purpose of each program is to bring together a "critical mass" of high quality scientists and to induce them to stay together for the health and visibility of each program. Twenty new scientists have already been hired for these programs and ten more positions will be filled in the coming years. These new faculty, together with the faculty already on board, will bring each program to a level of national visibility. In the years just prior

to the beginning of EPSCoR, an average of 14 Nevada scientists received NSF funding annually and the total of all NSF grants in Nevada for these years averaged less than $1.2 million per year. It is projected that with 25 to 30 scientists receiving EPSCoR support, there will be a two- to four-fold increase in the amount of NSF and other federal funds received annually by Nevada. The five targeted university programs will serve the state as beacons of opportunity, resources for new technological industry, and evidence of the University of Nevada System's commitment to compete for talent and its economic benefits on a national level.

Computing and New Technology

The University of Nevada System is at a critical point for computing. It is necessary to make a significant investment in the future in computers and related technology. In order for Nevada's faculty to offer state-of-the-art instruction, it is necessary to have state-of-the-art equipment. In order for Nevada students to be competitive, and for academic programs to be competitive with other state universities and colleges, the students must be computer literate and they must be instructed with current equipment and knowledgeable about emerging technologies. For the university campuses to pursue their goals of quality education and to provide access to Nevadans to that education, they must be provided with mainstream computing capabilities. The UNS budget request contains an entire priority in "Priorities for New Funding" for academic and administrative computing. The system

total for this request is $19,445,839 that will serve all of the campuses and have a statewide impact on computer education in higher education in Nevada. Computing, especially academic computing, will remain a priority within the University of Nevada System, as the academic quality of instruction and research will increasingly depend upon our ability to acquire and use new technology. The next two biennia are crucial. Needed equipment, software, and personnel are detailed in the budget request.

It should be noted that for the first time, the budget request represents the combined computing needs of the campuses and of the system. A primary emphasis has been placed on academic computing, which includes instruction and research. There is a critical need to move to mainstream computing in academic computing, and to provide on-campus equipment for students and faculty at computer work stations and instructional computer laboratories. The budget request also details the need for large computers which can be used to support both academic and administrative computing. Priorities have been established by the UNS Academic Computing Committee that target instructional and research needs throughout the system.

A major proposal concerning administrative computing is to move to a computing environment that is shared with other systems of higher education. Currently, UNS is the sole implementation site for a unique administrative computing system. It is the proposal of the campuses and of the University of Nevada System

that a move be made to more mainstream computing and that this change be made as soon as possible in order to achieve proper oversight and efficiency of administrative systems, such as student record systems, payroll, personnel system, and other administrative packages. Overall, the proposal represents a significant academic, scientific, and administrative computing proposal. The technology is needed to enable the University of Nevada System to move into the next decade and remain competitive with other state universities.

Educational Telecommunications

The campuses of the University of Nevada System are cognizant of the incredible impact of new technology in education. New methods of instructional delivery, including telecommunications and computer-aided instruction, will be increasingly integrated into existing educational settings. Telecommunications networks and regional consortia will make borders between college service districts and states increasingly arbitrary boundaries. Higher education institutions and systems have begun to grapple with new policy questions and issues as technology plays an ever larger role in educational delivery.

The University of Nevada System, with its large geographical service area, has long considered the potential of telecommunications as an educational delivery system. Students and professionals in need of continuing education could be better served in rural and remote areas of the state, occupational training programs could

be delivered to work sites, and those who are home or institutionally bound could be served. In an effort to coordinate current system telecourse policies and to plan effectively for future programs, the Board of Regents formed a UNS Task Force on Educational Telecommunications.

The task force was charged with recommending policy which would guarantee an integrated system for telestudies in the system, recommending policies pertaining to minimum standards of instruction, funding formulas, and administrative policies and procedures, recommending financial considerations and quality assurances to all system institutions, and recommending ways of funding the cost of delivery.

In order to implement the proposed state plan for educational telecommunications in Nevada, state resources are needed. Included in the system 1989-91 budget request is a category for educational telecommunications.

In the system's priority request for new funding, priority number four includes a request for a new program in educational telecommunications. Nevada is behind many western states in its ability to offer distance education and training. There is a critical need to acquire a system uplink to acquire needed satellite communication and an ITFS (Instructional Television Fixed Service) uplink in the northern and southern part of the state. This request is a modest request to obtain appropriate audio teleconferencing equipment and personnel to install and run the system as well as to improve our planning efforts in telecommunications. The request totals $986,095 over the biennium period.

Since Nevada is geographically such a large state with a dispersed population, many educational needs can be met through the use of telecommunications. There are also urban continuing education needs. For example, in engineering, we could better meet the training and educational needs of new and/or expanding industries in the state. The University of Nevada System has planned well for the future of telecommunications, and it is our hope that funding of these priorities will allow us to continue to serve the citizens of the state effectively and efficiently.

APPENDIX

UNIVERSITY OF NEVADA SYSTEM
Total Degrees & Certificates Conferred
July 1980 to June 1988

Institution	Certificates	Associates	Bachelors	Masters	Doctorates	Professional	Total
Community Colleges							
CCCC							
1980-81	19	290	--	--	--	--	309
1981-82	5	337	--	--	--	--	342
1982-83	58	432	--	--	--	--	490
1983-84	54	478	--	--	--	--	532
1984-85	49	404	--	--	--	--	453
1985-86	53	408	--	--	--	--	461
1986-87	36	374	--	--	--	--	410
1987-88	31	396	--	--	--	--	427
NNCC							
1980-81	0	64	--	--	--	--	64
1981-82	29	31	--	--	--	--	60
1982-83	18	39	--	--	--	--	57
1983-84	19	40	--	--	--	--	59
1984-85	22	40	--	--	--	--	62
1985-86	24	36	--	--	--	--	60
1986-87	24	37	--	--	--	--	61
1987-88	19	31	--	--	--	--	50
TMCC							
1980-81	18	165	--	--	--	--	183
1981-82	15	186	--	--	--	--	201
1982-83	28	195	--	--	--	--	223
1983-84	24	294	--	--	--	--	318
1984-85	38	235	--	--	--	--	273
1985-86	26	268	--	--	--	--	294
1986-87	37	285	--	--	--	--	322
1987-88	32	205	--	--	--	--	237
WNCC							
1980-81	16	74	--	--	--	--	90
1981-82	42	82	--	--	--	--	124
1982-83	156	106	--	--	--	--	262
1983-84	8	122	--	--	--	--	130
1984-85	15	104	--	--	--	--	119
1985-86	15	115	--	--	--	--	130
1986-87	12	103	--	--	--	--	115
1987-88	16	108	--	--	--	--	124

UNIVERSITY OF NEVADA SYSTEM
Total Degrees & Certificates Conferred
July 1980 to June 1988

Institution	Certificates	Associates	Bachelors	Masters	Doctorates	Professional	Total
Universities							
UNR							
1980-81	--	19	817	181	17	48	1,082
1981-82	--	41	779	216	24	45	1,105
1982-83	--	48	835	189	19	42	1,133
1983-84	--	38	904	194	25	48	1,209
1984-85	--	40	953	180	26	46	1,245
1985-86	--	20	917	218	21	49	1,225
1986-87	4	--	904	194	26	42	1,170
1987-88	--	--	945	218	25	46	1,234
UNLV							
1980-81	--	91	564	250	5	--	910
1981-82	--	93	733	253	10	--	1,089
1982-83	--	91	855	242	7	--	1,195
1983-84	--	108	940	251	4	--	1,303
1984-85	--	98	899	234	5	--	1,236
1985-86	--	89	921	203	7	--	1,220
1986-87	--	78	993	225	6	--	1,302
1987-88	--	19	983	212	8	--	1,222
System							
1980-81	53	703	1,381	431	22	48	2,638
1981-82	91	770	1,512	469	34	45	2,921
1982-83	260	911	1,690	431	26	42	3,360
1983-84	105	1,080	1,844	445	29	48	3,551
1984-85	124	921	1,852	414	31	46	3,388
1985-86	118	936	1,838	421	28	49	3,390
1986-87	113	877	1,897	419	32	42	3,380
1987-88	98	759	1,928	430	33	46	3,294

Source: Higher Education General Information Survey, "Degrees and Other Formal Awards Conferred," 1981-88.

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INDEX OF DEGREES OFFERED: UNIVERSITY OF NEVADA SYSTEM

The following index contains a listing of all degrees presently offered by the campuses of the University of Nevada System, classified by level of degree, academic field, and campus.

- University of Nevada-Reno
- University of Nevada, Las Vegas
- Clark County Community College
- Northern Nevada Community College
- Truckee Meadows Community College
- Western Nevada Community College

University of Nevada

Programs by Major	UNR	UNLV	CCCC	NNCC	TMCC	WNCC
	UNIVERSITIES		COMMUNITY COLLEGES			
AGRICULTURE						
Agricultural Business				A		
Agricultural Economics	B,M					
Agricultural Education	B					
Animal Health Technology			A			
Animal Science	B,M			A		
Farm and Ranch Management				A		
Integrated Pest Management	M					
Ornamental Horticulture			C,A			
Plant Science	B,M					
Resource Management	B,M			A		
Veterinary Science	B					
BUSINESS						
Accounting	B	B,M	A	C	C,A	
Accounting-Applied						C,A
Accounting-Intermediate						C,A
Accounting Technician				C		
Administrative Assistant					A	
Banking and Finance			A			C,A
Bookkeeping			C			
Business Administration	M	M		C,A		
Business Management			A			
Casino Managment			C			
Clerical Office					A	
Construction Management				C		
Data Processing				C		
Economics	B,M	B,M				
Executive Secretary				C		
Finance	B	B				
General Business					C,A	C,A
General Clerical				C		
General Office Administration						C,A
General Secretarial				C		
Hotel Administration		B,M				
Hotel Technology			C,A			
International Business			C			
Legal Office					A	
Legal Secretary				C		
Logistics Management	B					
Management	B	B				C,A
Management Information Systems		B				
Marketing	B	B			C,A	C,A
Marketing/Merchandising/ Retail/Management			A			
Medical Office					A	
Medical Office Assistant				C		
Mid-Management					C,A	
Money and Banking					C,A	
Office Administration			A	A	C	
Real Estate			A		C,A	C,A
Records Management			C			
Resort Occupations			A			
Savings and Loan			A			

Programs by Major	UNR	UNLV	CCCC	NNCC	TMCC	WNCC
	UNIVERSITIES		COMMUNITY COLLEGES			
Secretarial and Clerical				C		
Small Business Management					C,A	C,A
Stenographic Secretarial						C,A
Word Processing				C	A	C,A
COMMUNICATIONS						
Communications Studies		B,M				
Communications			A			
Journalism	B,M					
Speech Communication	B,M					
COMPUTER & INFORMATION SCIENCES						
Business Data Processing — Main Frame			C			
Computer Information — Applications						C,A
Computer Information — Programming						C,A
Computer Information Systems	B				C,A	
Computer Science	B,M	B,M	A			
Computing and Information Technology			A			
Computer Technology					A	
Data Processing			C	C		
Micro-Computer					C,A	
Micro-Computer (Management Information System)			C			
Micro-Computer System Software Analysis			C			
EDUCATION						
Athletic Training		B				
Child Development			A		A	
Child Development (Infant/ Toddler)			C			C
Child Development (Pre-School Education			C	C,A		C
Child Development (Teacher Aide)			C			C
Child Development (Teacher)					C	
Child Development (Director)					C	
Counseling, Ed. Psych., and Foundations		M,D				
Counseling & Guidance (Personnel Services)	M,S,D					
Curriculum and Instruction	S,D	M,S,D				
Educational Administration and Higher Education	M,S,D	M,S,D				
Elementary Education	B,M	B				
Elementary/Secondary Education	B					
Exercise Physiology		M				
Health Education		B				
Health, Physical Education and Recreation		M				
Physical Education	B,M	B,M				

System Degrees Offered by Leve

Programs by Major	UNIVERSITIES UNR	UNLV	COMMUNITY COLLEGES CCCC	NNCC	TMCC	WNCC
Professional Development		PDD				
Recreation	B	B				
Secondary Education	B,M	B				
Secondary, Postsecondary and Vocational Education		M,S,D				
Special Education	B,M	B,M,S,D				
Vocational Counseling		M				
ENGINEERING						
Architecture		B				
Architectural Design					A	
Architectural Drafting					C	
Architectural Landscape Design					A	
Automotive Technology Program			C,A	C,A	C,A	
Chemical Engineering	B					
Civil Engineering	B,M	B				
Civil and Mechanical Engineering		B,M				
Computer Integrated Manufacturing Systems Engineering	M					
Computer Science Engineering		B,M				
Computer Science and Electrical Engineering		B,M				
Drafting Technology Program			C,A	C	C,A	
Engineering	D					
Electrical Engineering	B,M	B,M				
Electronic Engineering Technology			C,A			
Electronics Service Technology			C			
Electronics Technology					C,A	A
Engineering Physics	B					
Geological Engineering	B,M,P					
Machine Technology						A
Manufacturing Technology						A
Mechanical Engineering	B,M	B				
Metallurgical Engineering	B,M,P,D					
Mining Engineering	B,M,P					
Mining Technology				C,A		
Residential Design					A	
Solar Energy Technology					C,A	
Welding Technology			C	C	C,A	C,A
FOREIGN LANGUAGES						
Foreign Languages and Literatures	M					
French	B	B,M				
German	B	B,M				
Romance Languages		B				
Spanish	B	B,M				
HEALTH						
Clinical Laboratory Science	C,B					
Clinical Laboratory Sciences (Med Tech)		B				

Programs by Major	UNIVERSITIES UNR	UNLV	COMMUNITY COLLEGES CCCC	NNCC	TMCC	WNCC
Dental Assisting					C,A	
Dental Hygiene			A			
Emergency Medical Technology					C	C
Health Care Administration		B				
Health Education	B					
Gerontology	C	C				
Licensed Practical Nurse			C	C		C
Medical Laboratory Technology	C		A			
Medical Records Technology			A			
Medical Sciences	B					
Medical Technology	B	B				
Medicine	D					
Mental Health Technician					C	
Nursing	B,M	B,M	A	A	A	A
Nursing Assistant					C	C
Ophthalmic Technology			A			
Paramedic Medicine			A			
Pharmacology	M,D					
Pre-Dental	BX	BX				
Pre-Medical	BX	BX				
Pre-Pharmacy	BX	BX				
Pre-Physical Therapy	BX	BX				
Radiologic Technology		B			A	
Respiratory Therapy			C,A			
Speech Pathology and Audiology	B,M					
HOME ECONOMICS						
Child and Family Studies	B					
Consumer Sciences	B					
Culinary Arts					C,A	
Food and Nutrition	B					
Food Service Technology			C		C,A	
Home Economics	M					
Housing and Interior Design	B					
Textile and Apparel Merchandising	B					
LAW						
Court Reporting			A			
Legal Assistant			C,A			
Judicial Studies	M					
Pre-legal	BX	BX				
LETTERS						
English	B,M,D	B,M,D	A			
Teaching of English	M					
LIBERAL/GENERAL STUDIES						
Arts			A	A	A	A
General Studies	B		A	A	A	
General Transfer			A			
Liberal Studies		B				
LIFE SCIENCES						
Biochemistry	B,M,D					
Biology	B,M,D					

el, Field, and Campus

Programs by Major	UNIVERSITIES UNR	UNLV	COMMUNITY COLLEGES CCCC	NNCC	TMCC	WNCC
Biological Sciences		B,M				
Botany	B,M					
Cellular and Molecular Biology	M,D					
Environmental Biology		D				
Zoology	B,M					
MATHEMATICS						
Mathematics	B,M					
Mathematical Sciences		B,M				
Teaching of Mathematics	M					
MULTI/INTERDISCIPLINARY STUDIES						
Asian Studies		B				
Basque Studies	D					
Comparative Literature		B				
Film Studies		B				
Land Use Planning	M					
Latin American Studies		B				
Linguistic Studies		B				
Social Science Studies		B				
Women's Studies		B				
PHILOSOPHY, RELIGION, & THEOLOGY						
Ethics and Policy Studies		M				
Philosophy	B,M	B				
PHYSICAL SCIENCE						
Applied Physics		B				
Atmospheric Physics	M,D					
Chemistry	B,M,D	B,M				
Earth Sciences		B				
Geochemistry	M,D					
Geography	B					
Geology	B,M	B				
Geology and Related Earth Sciences	D					
Geophysics	B,M,D					
Geoscience		M				
Geotechnical Science				A		
Hydrology and Hydrogeology	M,D					
Physics	B,M,D	B,M	C	C	C	C
Science			A			
Science and Education		PDD				
Water Resources Management		M				
PUBLIC AFFAIRS AND PROTECTIVE SERVICES						
Administration of Justice				A		C
Corrections					A	C,A
Criminal Justice	B	B	C,A	A	C	
Fire Science Technology			C,A		C,A	
Fire Science Management			A			
Juvenile Justice					A	A

Programs by Major	UNIVERSITIES UNR	UNLV	COMMUNITY COLLEGES CCCC	NNCC	TMCC	WNCC
Law Enforcement					A	C,A
Private Security					A	
Public Administration	C	M				
Public Administration and Policy	M					
SOCIAL SCIENCES						
Anthropology	B,M,D	B,M				
History	B,M,D	B,M				
International Affairs	B					
Psychology	B,M,D	B,M				
Political Science	B,M	B,M				
Social Psychology	B,D					
Social Sciences		B	A			
Social Work	B	B				
Sociology	B,M	B,M,D				
Sociology/Criminal Justice		M				
TRADE AND INDUSTRIAL						
Auto Body Service					C,A	
Automotive Mechanics				C,A	C,A	
Automotive Technician				A		
Automotive Technology			A		C,A	
Building Trades					C,A	
Diesel Technician				C,A		
Heavy Equipment Mechanics					C,A	
Mechanical Drafting					C,A	
Refrigeration/Air Conditioning					C	
Technical Arts				C		
VISUAL AND PERFORMING ARTS						
Art	B	B,M				
Dance		B				
Graphic Arts — Graphics Technology			C,A			
Graphics Arts — Print Production					C	
Fine Arts			A			
Music	B,M	B				
Music — Applied	B	M				
Music — Dance		M				
Music Education	B					
Theatre	B					
Theatre Arts		B,M				

KEY: Degree Offered

C — Certificate of Achievement (all levels)
A — Associate (A.A., A.S., A.A.S.)
B — Baccalaureate (B.A., B.S., B.S.B.A., B.F.A., B.S.C.E., B.S.E.E., B.S.E.S., B.S.H.A.)
M — Master's (M.A., M.S., M.B.A., M.F.A., M.P.A., M.Ed., M.M., M.A.T.E., M.S.V.C., M.S.C.E., M.S.E.E.)
S — Specialist (1 year beyond Master's)
D — Doctorate (Ph.D., Ed.D., M.D.)
P — Professional (Geol.E., Met.E., E.M.)
PDD — Professional Development Degree
BX — The university offers pre-professional coursework in this field, while completing a baccalaureate degree in another major

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